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FORWARD MOTION

The present and the future
of motion capture

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Halo 5: Guardians. Image courtesy of Microsoft, 343 Industries.

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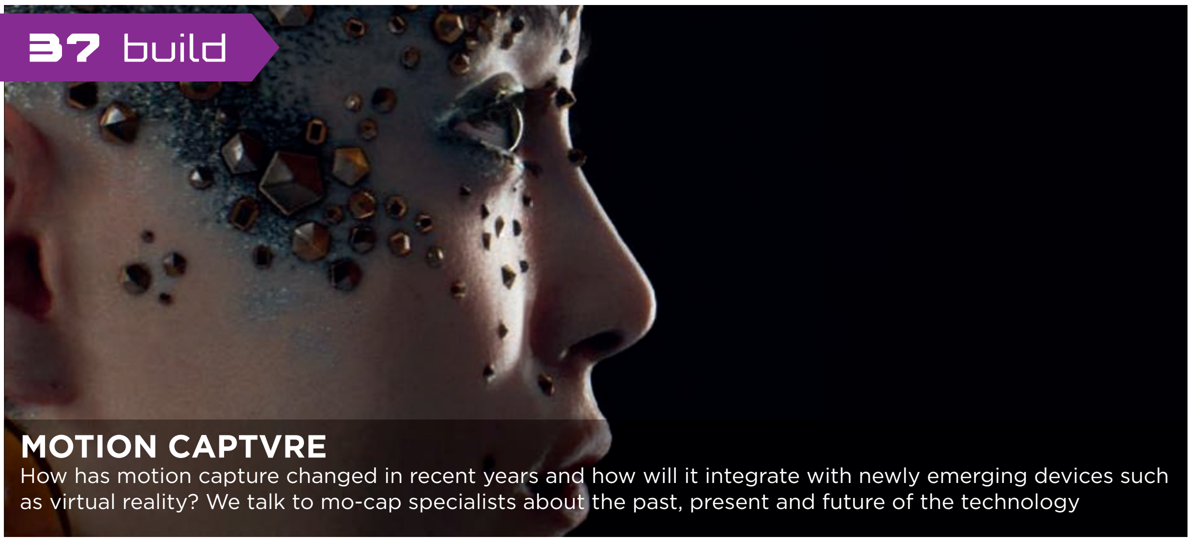
develop #177 NOVEMBER 2016

37 build



MOTION CAPTVRE

How has motion capture changed in recent years and how will it integrate with newly emerging devices such as virtual reality? We talk to mo-cap specialists about the past, present and future of the technology

05 alpha

ON/OFF SWITCH

Musings on the Nintendo Switch and whether developers will lend their support

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SOON TO BE FAMOUS FIVE

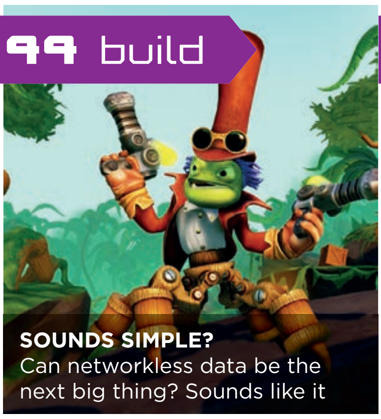
We speak to the recently crowned BAFTA Breakthrough Brits about the intiative

29 beta

'WE BUILT A TEAM THAT JUST WON'T DIE'

The Dreamloop Studios story

44 build



SOUNDS SIMPLE?

Can networkless data be the next big thing? Sounds like it

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POST-MORTEM: NOT A HERO

How Roll7 almost managed to get BunnyLord into Downing St.

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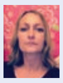

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Editorial

A NEW BEGINNING

First, I want to begin with a promise that the idea to put my face in the magazine five times (twice on this very page, even) was definitely not mine.

I was tempted to replace the photo in this column with a picture of my dog, Willow, but I suspect such great tonal shifts may be a little too much so early in my editorship.

Having said that, you may actually notice a few changes in this issue. Sean and I are excited about the ideas we have for the future and you can read more about this in his fantastic missive on the subject on the next page.

We're eager to hear feedback on this issue. It's our first magazine as a team. In fact, it's my first magazine *ever*, but sshhh, don't tell anyone. I'm proud of what we've put together this month. I'm indebted to our fantastic designer Julie and producer James for being so patient while we created this mo-cap special. Needless to say, I'm now an inDesign *wizard*.

> **We're eager to hear feedback on this issue. It's our first magazine as a team.**

Hopefully this month's cover managed to catch your attention. I wanted it to be a statement about the mag's new direction. Like the motion capture industry, Develop is evolving alongside game developers and gamers. It's a beautiful, striking piece of art and as soon as I saw it I knew I wanted it front and center.

There's plenty to see within these pages, too. Including some honest-to-goodness *opinion*. It's hard to have a hot take on a monthly deadline, but I've done my best. Let me know what you think.

Jem Alexander
jalexander@nbmedia.com

MAIN EVENT
All the info you need ahead of the Future Games Summit
P06

DIARY DATES
Navigate the new month with our complete guide to November
P08

MO-MONEY
Joost Van Dreunen looks at the the risks of large investment in small studios
P10

HELLO, WE'RE NEW

It's all change at Develop and we thought it only polite that **Jem Alexander** and **Sean Cleaver** introduce themselves and give you a little hint at what's to come as we head into 2017

The business of games development is constantly evolving. When Develop started back in November 2000 (yes it really has been sixteen years), there was an update on the yet to be released Xbox console, a Q&A on the next 3DFX wonder chip and a feature asking why people already hate the PlayStation 2. We also had Jason Kingsley of Rebellion on the cover, so some things at least have stayed the same.

But even then, independent development was a big discussion point and over time has become as synonymous with gaming as the big publishers, studios and manufacturers. You've read all about us by now in the various job updates over the last month (and even in this very issue), but what you might not know is that we've always been fans of Develop.

Along with its sister publication MCV, the magazine has been required reading for anyone interested in video games and how they are made. That has always been core to Develop. You can rest assured that this will not change. In fact, we want to do more.

RE-DEVELOPING

The landscape of video games has never been bigger, never been more international and has never been so open. From the smallest game jams to the BAFTA winning one-person studios and to the biggest of developers, we are a growing industry. To reflect this, Develop needs to grow too.

We're humbled to be given the opportunity to take the reigns of such an excellent magazine, and it'd be remiss of us not to thank our predecessors who have done amazing work within these pages. We've all visited studios and it's great to see our magazine on the coffee tables and desks all around the industry. But now is our opportunity to really define what Develop is going to be for 2017 and beyond.

It may be cliché to say that the future is now, but it really is. Our pages in this issue alone feature everything from mobile development, PC, console and independent success. We've already looked at virtual reality and even have the prospect of a new portable device from a major games platform holder to look forward to. We're about to enter the high fidelity age of 4K and HDR gaming, but the one thing that links all of this is that you, the person holding this magazine, are at the heart of it all.

As we plan for 2017, it's you that we want to celebrate. Develop wants to put you at the fore - wherever you are, whatever you're working on. It's the love of video games that brought us all here, from the coders to the producers, the engine makers and the artists, to name but a few.

For those who are long time supporters of Develop, we invite you to come along for the journey as we take the magazine you know and love and share it further and wider than we ever have before.

For those of you who are reading Develop for the first time - Hello. We're new too, and we do hope you enjoy our magazine. ■

ON/OFF SWITCH

The Switch promises to blur the line between handheld and big-screen gaming, but **Jem Alexander** wonders if developers will make the switch and support the house of Mario

The Nintendo Switch is now officially a thing. Within two weeks of the brief announce video (sorry, 'teaser trailer'), reports of the discontinuation of Wii U production could be heard echoing across social media like a digital cloister bell. The implications are clear. The Wii U, which is outlived by its older cousins PS3 and Xbox 360, was a failed experiment which Nintendo is happy to ditch in favour of something new.

But also something quite old, as they've taken a back to basics approach with their newest system. One that allows them to deliver the sofa experience gamers have voted for with their wallets (standard controllers and a focus on gameplay) while also playing to their strengths. Nintendo makes world class handheld devices.

Third party support for Nintendo consoles has been a thorny subject since the days of the Gamecube. When you're competing against Miyamoto and co. it's hard for even the most established triple-A franchises to make their mark. Perhaps that's an oversimplification of the issue, when in reality developer support is more likely to come to systems with a large install base. The Wii had this, and non-Nintendo games saw decent success on the platform. The Wii U did not have a large install base, and we all know how that turned out.

It's impossible to tell how well the Switch will sell. Especially since we still know so little about it and won't learn anything new until next year. If, as reports suggest, it will launch alongside ports of the Wii U's strongest games (*Zelda: Breath of the Wild* is currently the only Switch game to have been announced), it could be a tempting proposition for those who missed out on those games the first time around. But only if the hardware is priced well. That's a lot of ifs.

NINTENDO SWITCH
NINTENDO SWITCH
NINTENDO SWITCH

A big problem with the Nintendo Switch is that it's competing with not only the PS4 and Xbox One, but also the PS4 Pro and Project Scorpio. 1080p is already becoming a retro concept as people look towards an imminent 4K future. Developers want to make the best game they can, so they naturally gravitate to the strongest available technology in order to demonstrate their artistic wizardry and game design chops.

As a result, developers are given a choice. Jump straight onto a new, unproven platform that is technically constrained even by current generation standards, or push forward with Sony and Microsoft to create the highest resolution games with the best lighting and physics this side of a supernova. As a non-developer I have no visibility on what assurances and offers Nintendo is making to the development community, but judging by the secrecy surrounding the reveal, I'd wager many of you know as little as I do.

But even still, there's a huge amount of well deserved nostalgia and affection for Nintendo among gamers and developers. Many of us want the Switch to be successful, because we were raised on Nintendo games, but publishers also have this annoying desire to sell games and make money. So I imagine I'm in the same boat as many of you developers out there, hoping that the Switch strikes a chord with gamers and gives game creators an excuse, if not a reason, to jump on this new platform. Free of gimmicky controls and forced asymmetrical multiplayer, the Switch might allow developers to focus on gameplay and really find an audience.

This is where the console's portability becomes an important factor. No-one is playing 4K games on the tube, or the bus, or the toilet, and Nintendo *gets* handheld gaming; they invented StreetPass, for crying out loud. It's already been stated that the Switch won't compete with or cannibalise the 3DS, so clearly Nintendo's fiery gaze is fixed on mobile this time around. Especially if rumours of a touch screen are to be believed, which could allow for ports of popular iPhone and Android games. Like Super Mario Run, perhaps?

The prospect of having a "next generation" game in your pocket is definitely compelling. It could mitigate strongly the lack of ultra high HD graphics and brute computational strength that even a vanilla PS4 can mustre. Not that we know the official specs of this thing yet. Maybe some of you do. Maybe some of you are already making games for it right now. I hope so.

For others, I imagine it will be a wait and see game. If Nintendo can actually release some Marios, Zeldas and Metroids (stop laughing at the back) without delay this time, we could be seeing a swell of Switches. Enough to see indies and triple-A devs alike supporting the system with their games.
It's a nice thought, at least. ■

AT A GLANCE

NOVEMBER 5TH

FIREWORKS NIGHT

Remember, remember the 5th of November, and our tips on page 50.

NOVEMBER 13TH

REMEMBRANCE SUNDAY

Marking the end of hostilities in WW1, 98 years ago.

NOVEMBER 18TH

FANTASTIC BEASTS AND WHERE TO FIND THEM

The next offering in the expanding Harry Potter universe. Accio Popcorn!

NOVEMBER 24TH

THANKSGIVING

North America gives thanks to their forefathers before huge sales begin.

NOVEMBER 29TH

FINAL FANTASY XV

The eagerly awaited new adventure from the long-standing series.

DECEMBER 6TH

THE LAST GUARDIAN

It's here, It's finally here... We've written it now. It has to happen.

DIARY DATES

ESPORTS INDUSTRY AWARDS 2016

November 21st

London, UK

www.esportsindustryawards.com

NOVEMBER

VR Developers Conference
November 2nd to 3rd
San Francisco, California
Vdrconf.com

Blizzcon
November 4th to 5th
Anaheim, California
Blizzcon.com

Day of the Devs
November 5th
San Francisco, California
www.dayofthedevs.com

IndieCade Europe
November 18th to 19th
Paris, France
europe.indicade.com

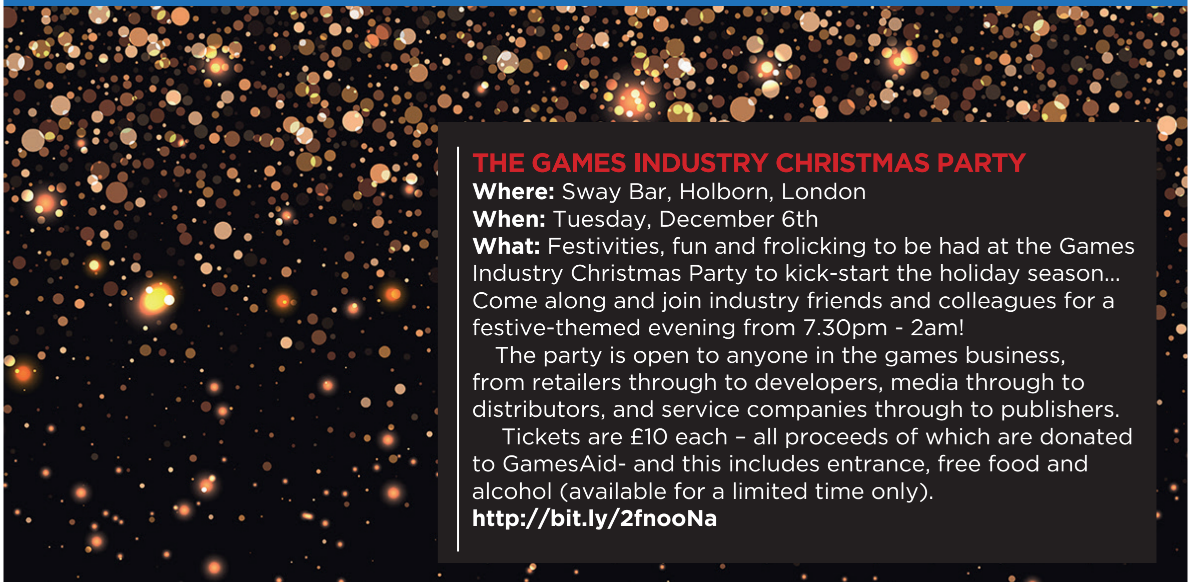
AdventureX
November 19th to 20th
London, UK
www.adventurexpo.org

DevelopVR
November 24th
London, UK
developvr.co.uk

Future Games Summit
November 23rd to 24th
London UK
http://bit.ly/2eYRJbr

Exile 2016
November 30th
Vallekilde, Denmark
exile.dk

EVENT SPOTLIGHT



THE GAMES INDUSTRY CHRISTMAS PARTY

Where: Sway Bar, Holborn, London
When: Tuesday, December 6th
What: Festivities, fun and frolicking to be had at the Games Industry Christmas Party to kick-start the holiday season... Come along and join industry friends and colleagues for a festive-themed evening from 7.30pm - 2am!

The party is open to anyone in the games business, from retailers through to developers, media through to distributors, and service companies through to publishers.

Tickets are £10 each – all proceeds of which are donated to GamesAid- and this includes entrance, free food and alcohol (available for a limited time only).

http://bit.ly/2fnooNa

COMING SOON

DEVELOP 178

DEC 2016/JAN 2017: THE RECRUITMENT ISSUE

Our annual look at the games jobs market explores the opportunities for both new developers and established professionals looking for a new challenge. Also includes Develop Jobs Extra, our special supplement profiling studios from around the world and their hiring needs.

GDC 17
REGISTRATION IS NOW OPEN

DEVELOP 179

FEB 2017: The GDC Issue

This years GDC conference is a bit earlier than usual, starting on February 27th. We've brought our special issue forward so you'll have it in time for the conference. If you have anything you want to put forward or need to contact us, then you can find our details below.

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FUTURE GAMES SUMMIT: Who, What, Where, When?

Our upcoming event asks what's next for the games industry and where does eSports go from here?

The first ever Future Games Summit takes place this month at the Millennium Mayfair Hotel in London. This two day festival of thought is an opportunity for industry luminaries to get together and look to the future of games, eSports and other emerging forms of interactive entertainment.

We have over fifty speakers attending the event to discuss the future of gaming, including representatives from Microsoft, UKIE and BAFTA. Developers such as Curve Digital, Climax Studios, nDreams and Bossa Studios will all be speaking, too.

Check your inbox

Develop subscribers have been sent a 20% off discount code for the event, so be sure to dig that out before booking your tickets.

Day two is focused purely on eSports and will feature speakers from ESL, Fnatic, The British eSports Association and Gfinity. There are way too many speakers across both days to list out here, so check out the Future Games Summit website for the full list.

Speakers will also be attending roundtable discussions during the lunch hours of each day. Each speaker will be hosting a table with a particular topic, providing delegates with the opportunity to ask follow up questions from presentations, or engage in informed debate on the hot topics on the agenda.

Speaker roundtables are open to all as part of delegate passes, but they do require pre-registration, so make sure you've got time with your favourite speakers booked in. ■

AGENDA AT A GLANCE

DAY 1: 23RD NOVEMBER 2016

FINANCE, INVESTMENT AND THE ECONOMICS OF THE GAMES INDUSTRY

TRACK 1: FUTURE TECH 2016	TRACK 2: FUTURE BUSINESS
Mobile Gaming Interactive Panel Discussion: Augmented Reality Games – Where Do We (Pokémon) Go from here? Interactive Panel Discussion: Has VR blown its chance of being the future of games?	Games investment & funding trends Have traditional publishers had their day? How do we create a more diverse games industry?

LUNCH & SPEAKER ROUNDTABLES, NETWORKING & EXHIBITION VISIT

- Has the Steam train left the station?
- Interactive Panel: Who are the games media influencers of the future – and where will you find them?
- Interview: Creating the next generation of interactive entertainment

DRINKS RECEPTION & ESPORTS SHOWCASE

DAY 2: 24TH NOVEMBER 2016

ESPORTS IN 2016: UNDERSTANDING THE GROWTH TRAJECTORY

TRACK A: ENTRY LEVEL: ESPORTS ROOKIE	TRACK B: LEVEL UP: ESPORTS PRO
Investment, ROI & brand placement Traditional sports and eSports: how far should the parallels be taken? Optimising eSports team sponsorship Panel: Making the most of tournaments and live events	**Regulation, analytics & diversity** Regulation and protecting the integrity of eSports The role of analytics in eSports monetisation Panel: Does eSports need to remain gender neutral?

LUNCH & SPEAKER ROUNDTABLES, NETWORKING & EXHIBITION VISIT

- TV, OTT & eSports
- Closing Keynote Interactive Panel: Advertising & media buying in eSports

END OF FUTURE GAMES SUMMIT 2016

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to recommend them for next year's **#BreakthroughBrits** initiative.

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CURSED WITH MONEY

Joost van Dreunen discusses the dangers that come paired with large scale investment, especially for smaller studios

Most small studios have a proud culture of austerity. A shared mission motivates the team, which works many, many hours, always on the lookout to find ways to increase efficiency without spending more. It is in this narrow space between the pursuit of a dream and the reality of rent where game design takes place.

The industry's history is littered with examples of small crews who managed to pull off amazing creations with a fraction of the resources others enjoy. From Doom to Super Meat Boy, it is the lean and hungry shops that prove themselves capable of not just making a game that is fun to play, but also plug into a particular zeitgeist and propel themselves into the industry's spotlight.

Investment, as much as it may seem to be a positive thing, can be wildly upsetting to the delicate balance of a burgeoning studio. Particularly in the context of the current games market, in which an insatiable appetite from countries like China force companies like Tencent to look for new and innovative content to feed the beast.

At this point, the issues with a market like China are relatively well-known. The artificially created boundaries around its economy force both big and small game companies to partner up with local firms. Cloning continues to be a terrifying thought, especially considering the immense market power companies like NetEase and Tencent wield over the top grossing rankings. Plus the cultural barriers force developers to tailor their offering and reduce scalability.

Investment in a studio is good, but can upset the balance of a burgeoning studios efforts

FEEDING THE BEAST

But perhaps the biggest threat that comes with Chinese investment money is that you are not ready to meet demand. The sheer size of the market and the verve with which people play through newly released content forces game studios to step up their production cycles. Where previously you had spent months on carefully fine-tuning your mechanics and features, the new scaled business that you are part of demands that your team cranks out 30 new levels every week.

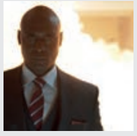
Certainly, companies that regularly invest in development shops carefully oversee this process. They provide a contact person who will come in and discuss how to implement a set of best practices and hooks into other platforms to boost cross-promotion and improve reach. But remember that you are a tiny line item in an enormous portfolio. Despite everyone's best intentions, the newly found demand can wreak havoc on a small firm and after an initial onboarding phase, complete with the additions of a foosball table and regular visits from the press, you are expected to work within the larger strategic framework of your investors. Their ability to bring you new, insatiable players may very well be the thing that crushes your company and its culture.

> **From Doom to Super Meat Boy, it is the hungry shops that prove and propel themselves into the spotlight.**
> *Joost Van Druenen*

For any development shop that is looking to realise a creative vision it can be intoxicating to receive investment. After eating ramen for months on end and hearing from parents or a spouse that you need to get your act together and move on, the sudden influx of capital is an electrifying moment. Across mailing lists, message boards, and Twitter, a fiery exchange of congratulations boosts everyone's egos as you set off to venture into the still unknown but now at least appropriately funded future. But be weary of the money curse. ■

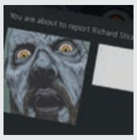
Joost van Dreunen is co-founder and CEO of SuperData Research
www.superdataresearch.com

MEANWHILE ON DEVELOP-ONLINE.NET



Creating the look of Quantum Break
http://bit.ly/2dRcLMb

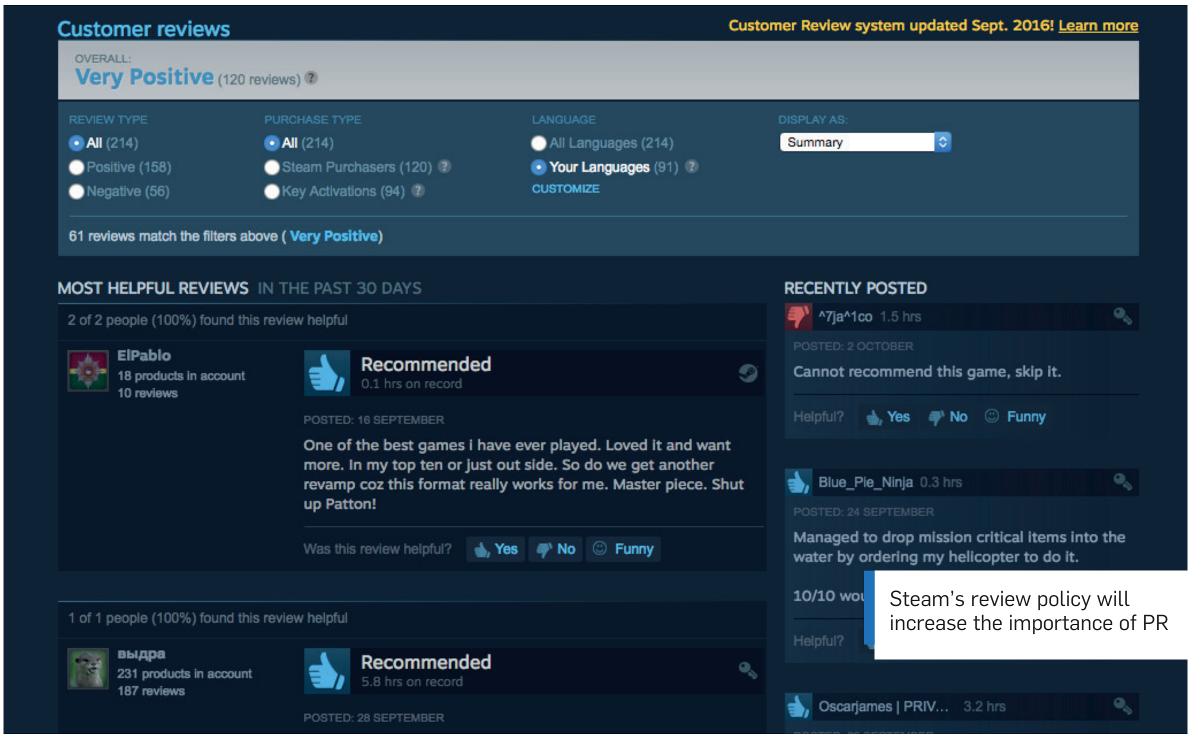
What is it like to be a female game tester?
http://bit.ly/2dKjvLY



Reclaim the game: Clamping down on bullying and harassment among your players
http://bit.ly/2djymcZ

DON'T PANIC

Changes to Steam reviews might not be as disastrous as some devs think, says Kiss' **Darryl Still**



Customer reviews

Customer Review system updated Sept. 2016! Learn more

OVERALL:
Very Positive (120 reviews) ?

REVIEW TYPE
● All (214)
○ Positive (158)
○ Negative (56)

PURCHASE TYPE
● All (214)
○ Steam Purchasers (120) ?
○ Key Activations (94) ?

LANGUAGE
○ All Languages (214)
● Your Languages (91) ?
CUSTOMIZE

DISPLAY AS:
Summary

61 reviews match the filters above (Very Positive)

MOST HELPFUL REVIEWS IN THE PAST 30 DAYS

2 of 2 people (100%) found this review helpful

ElPablo
18 products in account
10 reviews

Recommended
0.1 hrs on record

POSTED: 16 SEPTEMBER

One of the best games i have ever played. Loved it and want more. In my top ten or just out side. So do we get another revamp coz this format really works for me. Master piece. Shut up Patton!

Was this review helpful? Yes No Funny

1 of 1 people (100%) found this review helpful

выдра
231 products in account
187 reviews

Recommended
5.8 hrs on record

POSTED: 28 SEPTEMBER

RECENTLY POSTED

^7ja^1co 1.5 hrs
POSTED: 2 OCTOBER
Cannot recommend this game, skip it.
Helpful? Yes No Funny

Blue_Pie_Ninja 0.3 hrs
POSTED: 24 SEPTEMBER
Managed to drop mission critical items into the water by ordering my helicopter to do it.

10/10 wo

Helpful?

Oscarjames | PRIV... 3.2 hrs

Steam's review policy will increase the importance of PR

I am writing my latest column on a British Airways plane – cattle class as befits an Indie publisher – en-route to Seattle for the Steam Developer Days. As ever, I am sure the event will be enlightening and full of great ideas, great people and the odd beer.

The event is especially timely this year in light of the new Steam review policy that has been making a big noise in the press and across forums, whereby a review of a game does not register in the overall review score if it has not been purchased directly from Steam. This has resulted in the profile normally expected for certain games being limited due to the impact on Steam's algorithms.

No more can a games status be falsely inflated by the judicious gifting of thousands of free keys to less than established "press groups", hundreds of whom a week are springing up and contacting developers to try and extract free keys. These may or may not have resulted in a review, either good or bad, or even popped up for sale on one of the many new sites helping the industry race to the bottom of the price scale.

Harsh? Maybe, but also with an element of truth that makes me strongly support the initiative from Valve and to suggest to the development community: don't panic and carry on.

NOT THE INDIEPOCALYPSE

We have been supporting and advising our developers in this area for a while now. From our perspective, we see a similarity in reaction to when Steam introduced their new returns policy a while back. The press and forums were awash with stories of impending Armageddon.

However, once the uproar had died down, the world kept turning and, certainly for titles represented by Kiss, there has been no discernible impact. Indeed, it could be argued that the policy even encouraged people to try a game they may not previously have tried due to the new safeguard. As so often applies, if your games were good, you didn't have to worry. A good game would generally ensure a low returns rating.

> **Once the uproar has died down, the Indiepocalypse will be kept at bay for a while longer.**
> *Darryl Still*

In a similar way, once the uproar regarding the new reviews policy has died down, the Indiepocalypse will be kept at bay for a while longer. That is not to say there will be no impact. We at Kiss believe that these changes will increase the importance of PR channels outside of Steam's ecosystem.

Throwing free keys at the PR problem will no longer have the same impact it had a month ago. Instead, developers will need to think in a more traditional way about generating awareness: YouTube and Twitch channels, websites, social media, and trade and consumer shows. Presenting our product to the consumer in a way that allows them to actually believe the views being expressed or even try it themselves. Initiatives like Gamesessions, which allows you to try timed demos and is linked to Steam are also a strong way forwards.

Obviously, this will add an extra level of work for most developers and could quickly become overwhelming, but there are plenty of people out there to help. Agencies or publishers with good portfolios being one option. Most indie publishers have PR experts, who have contacts with the key review sites and a good knowledge of who not to deal with. It is a minefield, but one that can be traversed with the right friends and a sensible head. Just don't panic. To turn a metaphor around, the onrushing train just might actually be the light at the end of the tunnel. ■

Darryl Still is co-founder and CEO of Kiss Ltd, an independent games label that specialises in digital titles
www.kiss-ltd.co.uk

SEARCH FOR A STAR

Search For A Star documentary series coming soon

http://bit.ly/2enQSEx

Map combining workflows from Substance Painter to Designer

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Lethal VR: I've always wanted to preted to be Robocop for a few moments

http://bit.ly/2fgmXfO

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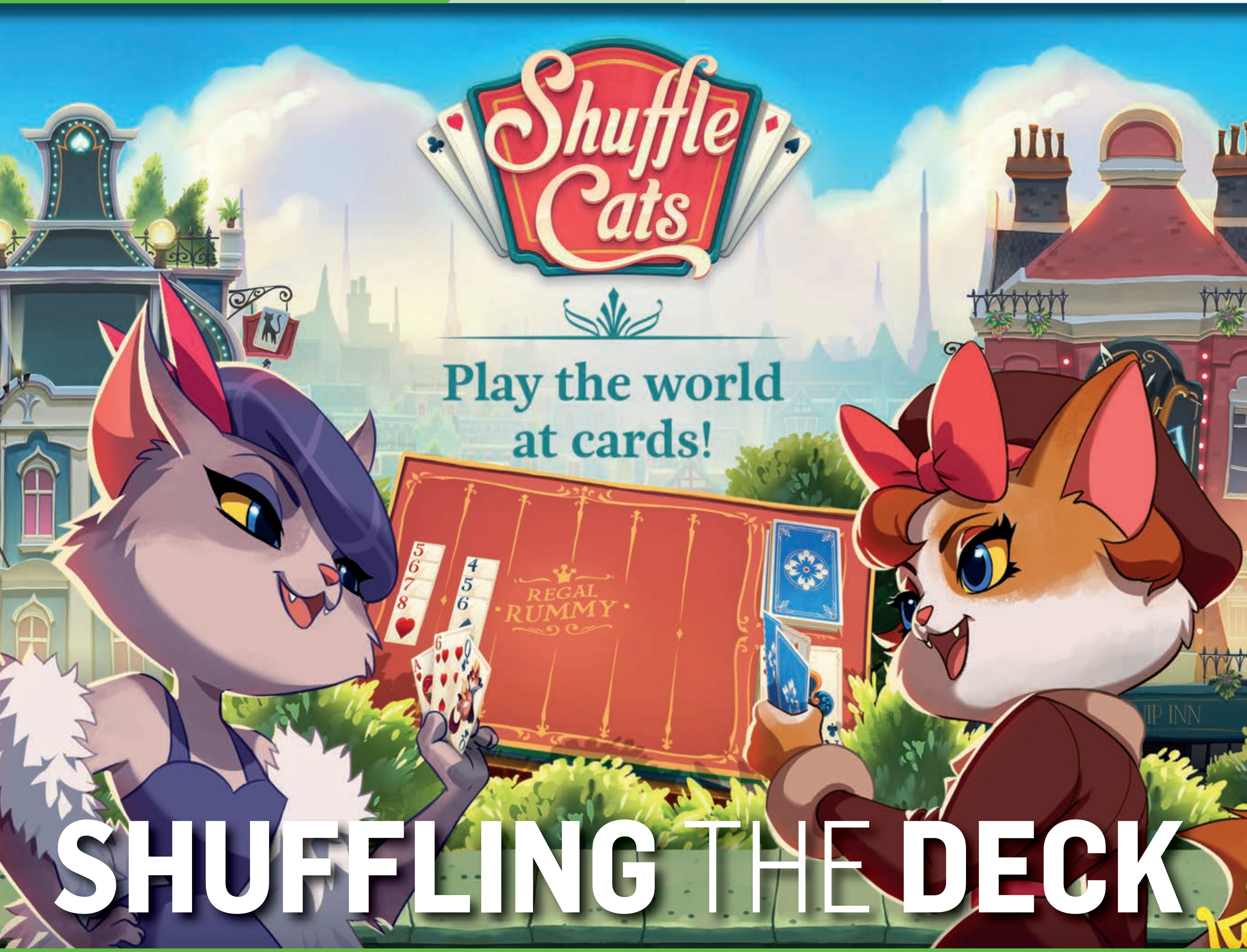


SHUFFLING THE DECK

As King launches its first online multiplayer game, Shuffle Cats, **Sean Cleaver** talked to the Candy Crush developers about the challenges in designing a very different style of card game

King seemed to be an omnipresent force in the mobile market, even before Activision Blizzard's acquisition of the studio earlier this year for $5.9 billion. The results of the merger are most visable in the recent release *Shuffle Cats*.

King has taken a big leap from its noted puzzle-based casual apps to produce a new, online multiplayer game where players face off in a modified version of rummy. The framework is, at times, unmistakable to *Hearthstone*, its distant cousin from Blizzard. But this is King's game and the jazzy cats of a roaring 1920s London are no Murlocks, so King needed to bring in some new talent and tackle new ideas to help produce *Shuffle Cats*.

Regis Geoffrion has been brought in as the senior producer for the game, having previously worked launching MMOs for other companies, and we spoke about how you go about creating a very different King game. “The decision to make a multiplayer card game was really to diversify the King portfolio and branch out to different genres and explore other avenues,” he tells me. “The original idea came from our chief creative officer. The idea of multiplayer and cards comes from him and everything else comes from the team.”

> **We played hundreds of matches to get a really good feel for the game.**
> *Ben Hollis, Lead Game Designer*

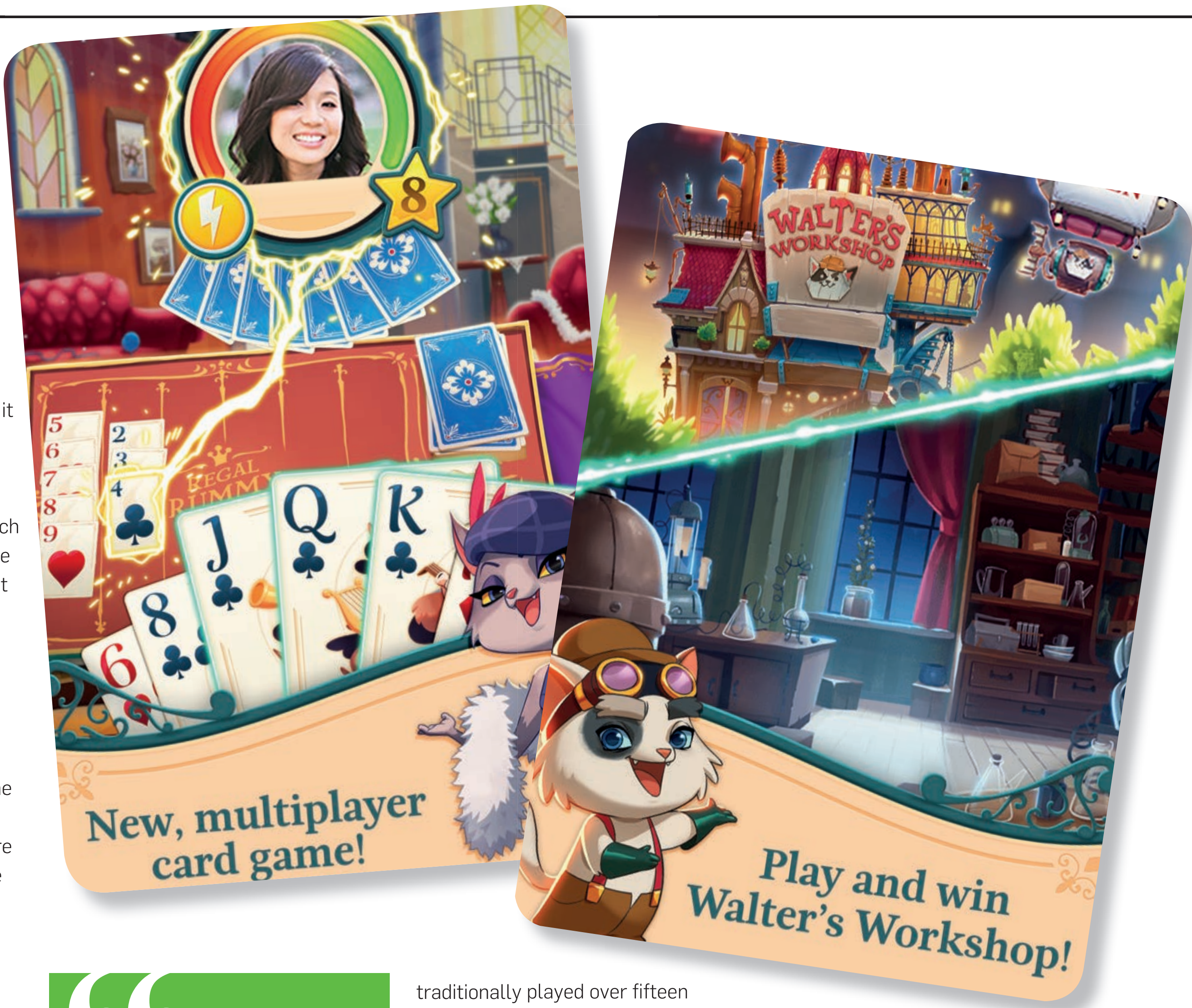
The beginning of a new project is always a tricky process, especially when you have a premise and nothing else. So, in order to refine the game for development, Ben Hollis, lead game designer, sat down with his team and

▶

played cards... Lots of cards. “We played hundreds and hundreds of matches until we managed to get a really good feel for the game,” says Ben, although before this, he’d never actuallyplayed rummy, the game *Shuffle Cats* is based on.

“I’d played cards when I was younger but not specifically this one,” Hollis continued. “We started with a huge list of card games that we were looking at until we whittled it down one by one, and arrived at rummy. We felt that was the right game. It promotes good synergy between two players, it’s easy to teach and it’s really visual. So we did a huge amount without ever needing to get it to a phone in the first place.”

Card games are nothing new in mobile gaming. From the green felt background of Solitaire to the multi-coloured tables of online poker, they have long been a part of the gaming landscape in one form or another. The problem, however, is keeping the experience going so that it doesn’t tire its player base. King feel that they’ve discovered two ways to combat this, and that they’ve found the right card game to do it with.



“This is our first multiplayer game at King and the most important thing for me was the core gameplay,” remarks Hollis. “Can we come up with a really good experience that provides two players with enough depth to play hundreds if not 500+ matches without getting bored of that? One of the reasons we chose rummy was the synergy. When you lay down a meld [of cards] your opponent can lay off their own cards on it. When you put down a card on the discard pile that could be a card that the other player wants. There’s lots of interaction. As soon as we got it on to a phone we felt we needed to make a real effort to capture that connection between the two players.”

> **We did a background story for the cats, for the world. I think that was super useful.**
> *Regis Geoffrion, Lead Producer*

Rummy is a game traditionally played over fifteen minutes with many different versions and rules. It is at least a hundred years old – possibly going as far back as the 18th Century. So when it came to adapting a game, it’s the perfect choice for a short-burst local multiplayer experience.

“The original rule set of classic rummy, you start with 7 cards,” explains Hollis. “So when you lay down a meld, your hand is permanently reduced in size so your hand gradually loses choice. We felt that it was a bit restrictive and, for our audience, we want to make sure they’ve got options and that the game isn’t over before it even begins. So we came up with the refill mechanic so that when you lay down a set of 3 or 4 cards, your hand refills which gives you that fresh set of choice.”

STORY IS KING

The second thing that King began to focus on came as quite the surprise to producer Geoffrion. “The other thing we did, which I didn’t realise at the time was a good idea, was we created a narrative. We made a background story for the cats, for the world and as a player there’s probably only two or three per cent of all of the work we did there that you’re going to see in the game. But ultimately, what makes *Shuffle Cats* a great universe is that it feels like a coherent world that makes sense and a lot of that is because we did narrative work with a professional script writer. I think that was super useful.”

Creating a narrative has helped the team to really give an identity to *Shuffle Cats* and also bring the extended world, including power ups (called lucky charms) and microtransactions into a much more easily understood setting. “Initially the narrative was really to help the artist figure out what the characters would look like and what the buildings would look like,” Geoffrion adds. “So it was much more of a tool for designers, the UI designer and the artist.

“But when I realised that it helped in two ways, firstly by making a coherent universe, which is not that easy, and secondly I think it helped a lot for branding and marketing. It’s so much easier to do, whether it’s a TV ad or logo or promotional artwork. So it ended up being a really good thing.”

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Despite those conceptual and early production successes, the difficulty remained in tightening the experience for a casual multiplayer audience and testing the potential gameplay issues that a larger audience could exploit for unfair gain.

This started with making sure that the game's microtransaction extras don't become a game breaker. "You have no idea how much work we've put into that to be mindful of that," says Geoffrion. "We aren't going to match somebody on The Streets (the game's training and single player area) with somebody in Lucky Lane (the game's multiplayer area) because the experience level is different.

"If you don't have a lucky charm equipped, we will not match you with a lucky charm. We've taken great care in terms of fairness. There's no lucky charms that's overwhelmingly powerful so we need to be careful that everything is fair and balanced."

AUTO SHUFFLE

In order to do this, King took an automated approach to playtesting the game. "We wrote some bots that play a million games and permutations, put out stats and we can look at and go 'no, that's too powerful, we need to nerf it,' Geoffrion tells me. "It's incredibly valuable and I recommend anyone to do it."

Producer Hollis builds on that. "That was a core design principle – If we do multiplayer, then we make sure it's fair, there's no kind of unfairness through progression or paying or any other means." Hollis says. "We came up with the lucky charm system. The first one you earn is after level 10, the king/queen one and that gives you double points for any king or queen card you lay, and everyone gets that at that point so it's fair. No player has an advantage."

> **We wrote some bots that play a million games and permutations.**
>
> *Regis Geoffrion, Lead Producer*

"We want it to be completely fair no matter what your level is in the game," Hollis continues. "We spent a lot of time looking at the king/queen one, then we added the zap card which takes away points and we spent a lot of time playing and making sure it felt good and right. And we did, we used bots and ran the two against each other to get a feel for what the pass rate might be in real life. Is it going to keep it 50/50? Is it going to annihilate it?

"We spent an awful lot of time on that with the playtesting. One of the benefits of being King is we can spend a lot of time playtesting and making sure we get the numbers as good as possible."

Being an online multiplayer game, the need to have a post-launch infrastructure is crucial. "I think we worked with a number of design pillars. We had three design pillars for the game. One was we wanted to make it a social experience," says Geoffrion. "With multiplayer there's a great need for us to make sure we look after *Shuffle Cats*," adds Hollis.

The gameplay experience of *Shuffle Cats* is largely down to the player, as with any card game. "To make sure that there's lots of new content and you keep it fresh," Hollis continues. "When you go in and play other people, it's really important that we keep that updated and keep it diverse. We need to be aware and know how people feel about the game and respond to that."

"Each week we've got Walter's Workshop and different experiments so that will be really interesting. As a designer I can't wait to hear what people think of the experiments we've got lined up. What's the feedback going to be? Are people going to love it? Are some going to hate it? It's really interesting. Every week we're going to have a new ruleset in there that will experiment with the game. It's great for the design team as we get to test out new ideas and great for players because it gives new content."

King's first foray in to the online multiplayer realm appears to have gone well, and the planning and design by Geoffrion, Hollis and the team is nothing if not extensive. How the game deals with being different from the rest of the company's catalogue remains to be seen. As a mobile game company, does the need for online connection make the game less playable on commutes? Will the players stay with it? Is there longevity in a hundred year old card game? It's clear that King is ready to listen and deal with anything that can be thrown at *Shuffle Cats* ■

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MAPPING THE FUTURE

Increasingly, developers can import a model of a real-world city into their games, rather than designing it themselves. But what does that option really bring to the table, and isn't it a little creatively stifling?

A city is so much more than a tangle of streets and buildings.

They are places of life and of systems. High-street crowds, transport networks, economics, waterworks and local weather all shape a city, making it what it is; an intricate artificial organism that lives and breathes as you pass through it.

That notion has long fascinated game developers and their players. Back in 1989 the original *SimCity* charmed, not through the types of neighborhood and roads it offered, but because it provided a chance to play with the systems that can make an urban sprawl behave like an animal. Years later, *Grand Theft Auto*'s first move into 3D with *GTAIII* provided another taste of what it was to play with a 'living' metropolis. Liberty City felt alive. Gangs would gravitate around certain areas, NPC behavior would change through the day, and trains would roll on above the roads, hinting at the private lives of local residents.

Those spaces, however, were not fused with reality. They were attempts at capturing the life of a city, but could never be like the real thing. Areas shaped and defined by the way people move though and use them over centuries.

What if, then, studios could build around real spaces, blending the realism of mapping data with the creative work of games design? A new generation of tools that give game makers the keys to real cities are emerging. And they are doing so in a way that is pragmatic and, potentially, revolutionary.

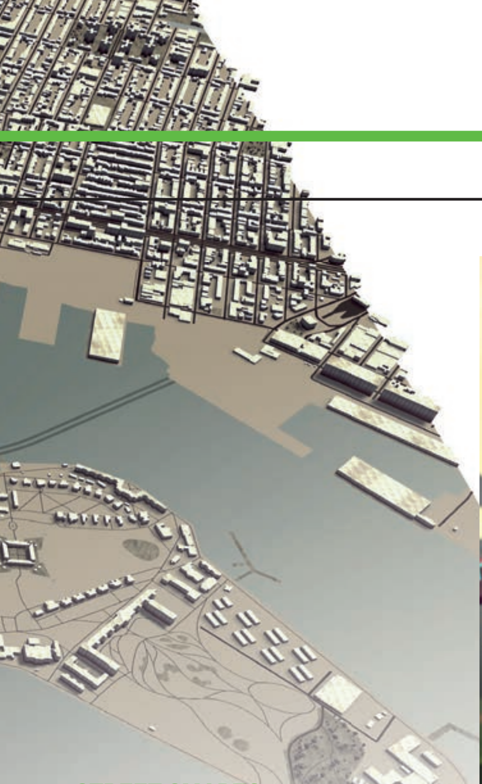
PUTTING DATA ON THE MAP

The team at Preliminal Studios is one of the outfits helping shape this trend. The developers have long been fascinated by location-based gaming. CEO and co-founder Dean Gifford was particularly keen on geo-location releases like 2011's quietly seminal *Shadow Cities*. Eventually he and his colleagues got around to shaping their own, *Fractured Skyline*, with the core idea of crafting an experience that pulled data from the player's real-world location, reimagining the environment around them as a science fiction setting.

"We started solving the problem of how to create 3D content that happens to be geo-locational, anywhere the player is in the world," Gifford says of a journey that would ultimately lead Preliminal to offering a tool for other developers by the name of Mantle.

"We got a working prototype that effectively pulled mapping information in," Gifford continues. "We did pixel testing that could identify where we can and should put game objects. Through that process we ended up with something that could take the GPS location of the player, pull mapping content down, generate a small gaming plate, and then put a whole bunch of missions and content on top of that."

That is the basis of many of these types of approaches. Instead of having to toil to build fictional worlds, developers can drape their content over the framework of a real, organically evolved city. Pulling existing data that captures the layout and systems of many locations.



Using real world cities can help inform the design of a game world

STREET SMARTS

The gains for developers – and those in many other sectors, from architecture to retail – are manifold.

"The organic nature of cities and streets is really powerful for games developers," Gifford says. "City Engine does a great job of procedurally generating blocks and city shapes, which is great, but there is nothing like reality. The number one takeaway for us from all this is that city streets are an organic natural noise that makes sense to us. As human beings we live in them and we have this indelible understanding of how they work. When you place content against those guidelines, you get this natural noise and it gives you a shape that works for your users."

"People are familiar with these areas," confirms Kelly Malone, vice president of product management and business development at Taqtile, another outfit working with real city data.

Taqtile is not a game developer, Malone is keen to point out. Its team builds applications of many kinds, having made a decision some 20 months ago to focus new attention on VR and AR. But Taqtile *has* acquired a game studio, Kihon Games, to help it better understand how game technologies are increasingly used to serve many different sectors currently embracing what VR and AR have to offer.

Taqtile's apps have historically been about places and events. Now, in building HoloMaps, the team is working on a project for HoloLens that lets users stand over, interact with and in some cases upload 3D models of real cities, inspired by the 'projected strategic maps' seen in films like The Hunger Games and Prometheus.

"Cities can be iconic and add a sense of reality to a game when it takes place somewhere familiar," Malone says. "The second thing is that, from a developer's perspective, building content is time consuming and expensive. If you can access content that has already been built and is available, then that can really cut down on development time, letting you focus on things that are more important. In our case, instead of worrying about the geometry of buildings, we can now focus on the more important data overlays and the context we want to put around those buildings and places. That's true whether using existing real-world locations, or if they're dynamically generating those locations with tools like Esri's City Engine."

> **As human beings, we live in them and have this indelible understanding of how they work**
> *Dean Gifford, Mantle*

Procedural efforts like City Engine offer a generous slab of that potential, but where the opportunity is most pronounced is employing real urban spaces. It's something a developer can do themselves, building around and employing offerings like Mapzen and Mapbox, which systems like Mantle make use of. That is a wildly complex approach though. With a tailored effort like Mantle developers can pull in and implement data in a matter or seconds or a few minutes. Which brings up an important point – prototyping.

THE UNCANNY CITY

Perhaps the most advantageous benefit of employing real-world city data to build game environments at speed is the opportunity to iterate and prototype.

"From a prototyping perspective, if you start with a blank slate, it can be very, very difficult to lock into something that feels good, or work as a space," says Gifford. "Using mapping content, you get started off with something, and with this an ability to mix and match different aspects of city data. You get something that makes sense from a spatial perspective, and you can modify it until you have something that is more fitting to what you want for your game or other application."

In that way, these kinds of technologies can be considered something of a location-scouting tool for games makers. If an environment has only taken seconds to build, then trying half a dozen game levels before sending all but one to the cutting room floor is much less expensive.

And, Gifford adds, working with real, identifiable city spaces can be far more creatively constructive in the prototyping stage than toiling away with grey-boxed sketches. Those environments of shaded geometry fail to inspire like a real metropolis, or are a little too uncanny.

However, one of the key challenges to building games from the map data of real cities is equally highlighted by this. If those grey boxes are brimming with detail imposed by reality, isn't the developer losing something fundamental to their craft? Something like creative freedom?

Absolute creative freedom is rarely possible. With budgets and deadlines and technical restrictions, there's always the argument that creative limitations can engender the best works of game design. Still, some developers may find concern in the idea of using, rather than creating, the setting of their games.

"You can still stylise an existing city using different shaders," Malone offers in response. "If you look at how Hollywood represents cities, using these glowing green or blue wireframe models you can see a different form of focusing creativity energy.

"It can be a focus on reflecting a city, and what kind of mood you want to create, as opposed to concentrating on how you lay out streets and buildings, etc."

Light Rain
61
85% Humidity
82% Rain
12 mph Wind
Wed 57 / 52
Thu 57 / 50
Fri 57 / 52
Sat 57 / 52
Sun 55 / 50
Mon 55 / 46
Tue 54 / 46
Wed 52 / 48
Thu 50 / 43

New technologies like HoloLens are giving new approaches to design

These maps, in other words, offer a starting point, rather than a finished environment. It's a point the team at Mantle agree with wholeheartedly.

"A city can provide a blank canvas to work with," offers Gifford, before pondering the creation of the Mantle engine. "I wanted to have granular flexibility to be able to determine, from macro types of layers all the way down to micro decoration, what materials were used, what prefabs were placed, how often they are placed and so on.

"It's a layered approach, and then within the layers there's this granular styling you can do. It gives you a lot of freedom. You get to spin up a world, and all the time you save doing that, you get to pour into gameplay," he asserts.

CAREFUL BUILDING

Many other challenges may not be immediately apparent to those using real-world city data for the first time.

"One of the things you have to consider is usage rights," suggests Malone. "If you want to tap into a source like Bing's 3D mapping data or Google Maps, you definitely need to check their usage rights, what you are allowed to commercialise through their API, and the copyright notices you need to display."

Just because a technology is there, doesn't always mean it provides the best option for a game developer.

"As beneficial as the detail of a city can be to a game designer, you have to be careful not to hang yourself with it," Gifford concurs. "You have to be very careful that you're pulling in all the content because you need it, as opposed to simply wanting to use something new, or feel that a city will look pretty as a backdrop."

Over at Taqtile, there's a similar sense that developers should be mindful of the technical reality of working in this way. "The different shaders you use can really impact performance," Malone says. "You really need to think about what you want your game or your project to look like. That may determine what tools you use, and what approach you take. Whilst we really love the Hollywood-stylised views that you see in Iron Man and Prometheus, actually doing that would be quite taxing, and wouldn't be suitable for a lot of experiences, because of the many draw calls required to display that."

> **What is going to get really interesting is how we now integrate so interior views of the world.**
> *Kelly Malone, Taqtile*

URBANE PLANNING

Despite those challenges, this approach to generating worlds has plenty of potential to thrive and become something more meaningful than a thought-provoking trend.

For one, considering that VR, AR and mixed reality all excel in offering users human-scale experiences that are inhabited, rather than simply watched on a flat screen, the potential of harnessing real-world spaces designed for humans to live within is vast.

That same knack for scale and immersion has also made the likes of VR a big hit in the world of architecture, where it is used for previsualisation, and even selling homes to prospective buyers. As such, while developers learn the craft of designing spaces for humans to inhabit, just as an architect would, their contemporaries serving the construction industry are increasingly having to learn more from game design.

"What is going to get really interesting is looking at how we now integrate some interior views of the world," Malone ponders. "I'm keen to see how this gets integrated into commercial applications, as well as game development. You look at Street View, for example; it's still kind of compelling to go down and get that 360-degree view of a location.

"Now, through Google and Bing, you can even go into some buildings, and get the interior view. It's already happening with businesses like restaurants, which now let you view their interiors.

"Imagine the next step, where that interior data begins to come in three-dimensionally. Think about some of the really compelling applications and users and games that could be built from that perspective. It's really exciting."

Having imported data providing not just a city's outside spaces – but also the corridors and rooms that could make up game levels – perhaps raises more questions than it answers as a game development solution, but one thing is certain.

The world you and your players exist in today might already be you next great bit of game design. That fact alone has the potential to disrupt not only the foundations of your last grey-boxed prototype environment, but also the very foundation of the creative process. ■

STUDIO SPOTLIGHT

TREASUREHUNT

LOCATION: Berlin, Germany
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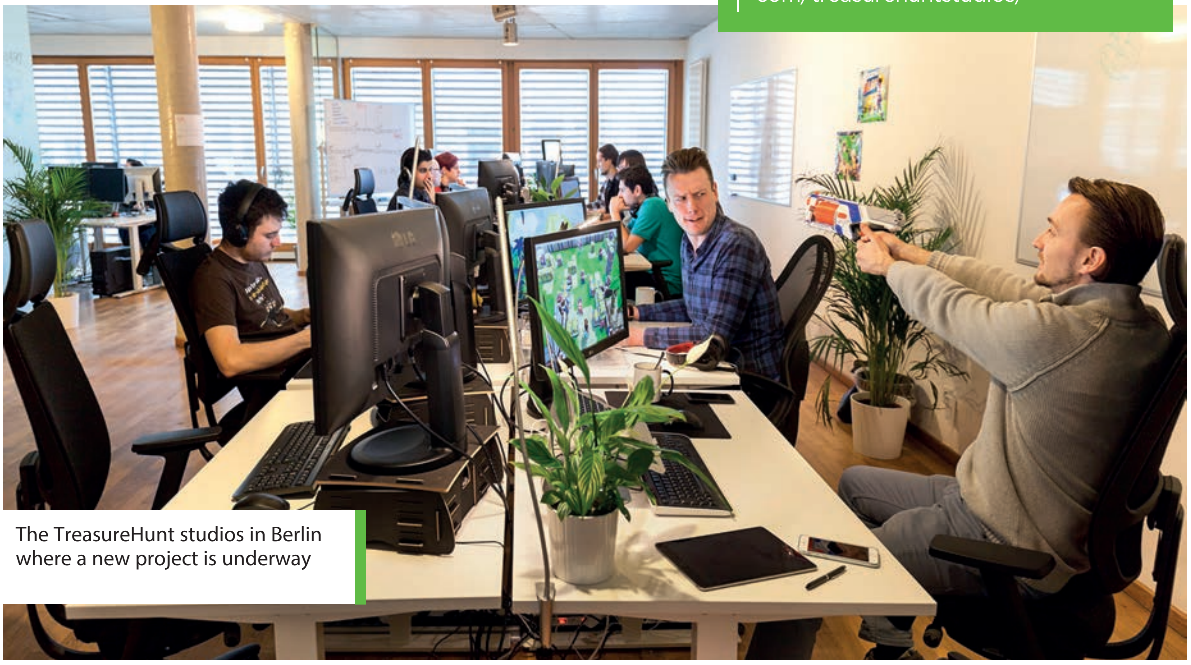
CEO Kyle Smiths tells **Develop** about the future of the Boomie Blast developer and the secrets hidden in the server room.



The TreasureHunt studios in Berlin where a new project is underway

Tell us about your company, for those not familiar with you.

TreasureHunt is a games studio in Berlin. Our mission is to be the leader in mobile multiplayer games for all audiences. Think of the kind of experience someone who likes a Pixar movie or Nintendo game would enjoy.

What experience does the team have? How is this shaping the games you're making?

Our team is stacked with experience and talent. At just under 20 people, we have leadership from EA, Zynga, Rovio, Kabam, King and way more. With that said we recruit quality talent over experience, but it's great if you can get both.

You launched the game quietly without much marketing. Why did you adopt this strategy?

This was early days for TreasureHunt before we had the resources we have now - it was a lot of tinkering and testing different channels and methods. Our next game will have a much more concerted marketing effort.

What did you learn from this launch that will help improve your next games?

Know your audience. Early on with our current game in development we undertook a significant amount of research, strategy development and user testing. We wanted to make something we knew we'd be well suited to develop and feel certain that this is something players want as well. We're deeply familiar with who we're making our current game for and every decision is for their benefit.

What are you working on now? What's the priority?

We're focused on a mobile game we plan on releasing early next year. We're taking a top 10 genre everyone loves on mobile and injecting some very needed and meaningful innovations. We're pushing the quality bar quite a bit, as well.

How can you stand out in the increasingly competitive mobile space?

Wrapping your core gameplay around a specific unmet player need and learning from other high usage apps to drive in-app growth, therefore not relying on traditional marketing spend.

We do some pretty old-school research and strategy development to find the right opportunities, then solidify that opportunity as the core of our game during design. Pick a spot you think you can be competitive in, bust your butt to win there, then grow out. Make a game a group of players have been waiting for.

We also focus on player usage. Look at any of the major app markets right now and there isn't a single game in the top 10 for usage. So what can we learn from messaging, shopping and map apps that will create commitment in our mobile games?

Then, of course, it's a matter of putting the best team together and creating a game to the highest quality that you can possibly muster within your constraints.

Are you planning to expand/recruit at all? If so, what are you looking for?

We're a Unity studio so if you're on the design, art or coding side that's a big requirement. We have a few pillars we look for in folks: People that want to challenge themselves every day, are eager to learn and teach their colleagues in equal measure, have a built in high quality bar and own a problem to the finish line no matter the hurdles.

What are your goals/priorities for next year?

We have three priorities in 2017. The dev team is totally focused on releasing our next game early next year which we're really looking forward to. Secondly, I'm looking for partners to help us achieve our exciting and ambitious mission. And of course, recruiting the best talent in the industry to be a part of accomplishing our goals is a constant for us.

Tell us something no one knows about your company (can be serious, can be silly).

Once, late at night, I placed several Mario coin stickers throughout the studio. I don't think everyone has found the one in the server room… unless they read this. ■

CIVILIZED QUALITY

With the release of Civilization VI, **Sean Cleaver** sat down with Sarah Darney, associate producer at Firaxis, to talk about how her background in QA has been essential for her role on the game

Civilization has a long-standing history of quality. You don't become a 25 year old franchise that has released six games, and at least another four spin offs without having a great foundation behind you. Now in its sixth entry of the historical turn based strategy behemoth and it's fair to say that as the game has evolved, so have the team making it.

It's been a long time coming for *Civilization VI*. The previous entry, which came out six years ago, was a new and successful direction for the game. Changing its traditional square based board for hexagons was a bold move that opened up the map, the movement and military conflict to new levels. The add-on pack *Brave New World* introduced a huge new subsystem based on ideology with different bonuses and skill trees that replaced all of the old social policy and religion trees. All of these additions do one thing – they drastically alter the balance and feel of a game.

This time around, Firaxis has included the ideology system in the full game. But the biggest change comes in the form of cities and how you build them. Now, when you have a city, you have to designate a tile to a certain speciality which limits what you can build inside itand in the space you have. For example, culture buildings like a theatre have to be built on a specialised tile and if you haven't built or assigned that specialisation, then you can't build it. That restriction also carries over to wonders, essentially turning the city screen in to a mini city building game. Evolution is as much a part of Civilization as it is the history it sources.

> I think it's so important to developers to have an understand of how the process works.
> *Sarah Darney, associate producer, Firaxis*

Firaxis have grown in to their strategy boots, so to speak. Not content with just Civilization, the studio has produced the reboot of the XCOM franchise as well, to great success. The studio has grown and the team has become well versed in many of its wares. We got to speak to Sarah Darney, who is an associate producer for Firaxis on the game.

Darney's job history is very interesting in that her background is in quality assurance, which when you say it out loud sounds like the perfect qualification to be a game producer. But when you have a big game franchise that implements such a drastic change in gameplay, QA and testing becomes a huge piece of the puzzle.

"Coming from QA, I think it's so important for developers to at least have an understanding of how the process works but I feel like that very much prepared me for what I'm doing now," Darney tells me. "Especially as I was the QA manager, which is very much like being a producer for the QA department."

Civilization VI is the newest entry in the 25 year franchise

EXPERIENCE ASSURED

Darney has worked on both of the XCOM reboots, *Enemy Unknown* and *Enemy Within*, as well as the *Beyond Earth* DLC, *Rising Tide*. But Civilization presents a new challenge. “It is quite frightening,” says Darney. “It’s a huge legacy. Civilization has been around for 25 years, those are very big shoes to fill.” With the changes in the game, Darney is keen to make sure it doesn’t lose its identity. “When you’re creating the next iteration in a franchise, you want there to be a similarity. You want the fans to feel like ‘Ok, I’m playing a Civ game’.

“Unstacking the cities was a huge change – just creating this puzzle game around all of your cities centres,” Darney continues. “It’s a big change and it affects every other function in the game. So whilst we still have that ‘thing’, that ‘civ thing’, that everyone knows – the one more turn magic, we did change it a lot. It’s something to get used to but it breaks up that routine.”

The identity of what makes Civilization such an addictive game has been affectionately mocked for many years. You can already see tweets of those lamenting the ‘one more turn’ trap as they post in the early hours of a morning. When a new feature comes in to the game that can break that magic, Darney’s experience in QA is invaluable. “Coming from QA, whenever I hear that there’s going to be a giant systematic change to the game, I’m still terrified,” Darney jokes, “because I immediately have flashbacks to all of the test plans that I’d have to write. But I do think that helps me as I’m approaching it now, because an important part of my job is to play the game and give feedback to the developers. I can send saves and say, ‘this isn’t quite feeling right, can you take a look?’ I definitely feel, because I still have that QA mind set, it gives me an advantage in doing that and I can approach things differently.”

BALANCING HISTORY

Civilization stretches over a number of video game genres – strategy, city building, alternate history and science fiction to name a few. Darney’s experience in QA across these genres has helped in making sure that marriage of them works, especially when it comes to balancing the new features and additions to the game. “That’s a big part of QA. How we approach it at Firaxis, internally especially, [is that the testers are] big Civ fans,” Darney explains. “They’re looking for bugs but they’re focused on whether this game is fun and just playing it every day. There are times a system goes in and maybe we pass the sweet spot.

“Finding that is especially important with balancing and with numbers,” Darney continues. “Amplifying this by 100 – that’s too overpowered. Let’s go back to 50 – still not quite right, and then swinging up to 75 and finding out where things are working.

> **I definitely feel, because I still have that QA mind set, it gives me an advantage.**
> *Sarah Darney, associate producer, Firaxis*

“That’s so important because we have so many unique units,” Darney adds. “We have base units, every leader has they’re unique ability and all these bonuses throughout the religion system, the government system and making sure all those numbers are right and working together. It is very challenging.”

QA is possibly one of the most important parts of game development as you have the opportunity, outside of bug fixing, to leave the bubble of the studio.

You get to see how the game works, how it plays, and fundamentally if it is any fun. At the end of day it is what everyone, all the way from the fan playing to the associate producer of the game, wants from a Civilization title.

“I love that part of the process as – we make games and they’re supposed to be fun,” Darney says. “If I see a fan and I get a high five them and they tell me how much they love this game and how happy it made them, it gives me the warm fuzzies. It’s why I go to work and it’s why I love my job.” ■

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‘WE BUILT A TEAM THAT JUST WON’T DIE’

After legal threats, a government policy change, a failed Kickstarter and a merger, Dreamloop’s indie journey has been a difficult one. But now the Finnish studio is finally making the game it has always wanted

The rise of independent developers has given hope to those who have found that studio life just isn’t for them. Sadly not everyone gets to simply down tools and start building million-selling hits in their bedroom – the road to independence is bumpier than that. A prime example is Finnish indie Dreamloop Games.

Like so many studios today, it began with its founding members working at another developer. While a key motivator was having a concept pitch refused, they also tired of their employer’s practices, with “employees treated poorly, paid next to nothing”.

“What drove us away was the shadiness,” co-founder and head of communications Steve Stewart tells *Develop*. “Contract negotiation for a fair wage was constantly prolonged or put off as a bargaining tactic, while huge promises were made and never delivered on. A lot of people were sick of the bullshit.

“The easiest part was actually getting a team together to branch out and start making a game. There was a lot of belief in Joni [Lappalainen, CEO], Hannes [Väisänen, CTO], and I.

“The hardest part was asking people who we knew would have great offers to turn them down to work at a studio that was likely a gamble to begin with.”

Then there was the financial risk to setting up on their own. When Dreamloop first sought funding, Stewart was working overnight as a security guard, then hurrying home for Skype calls with the team.

> **There needs to be more support for devs trying to retain ownership of their IP.**
> *Steve Stewart, co-founder, Dreamloop*

Even with finance secured the money had to be shared around, Stewart explains: “One month, I got a cheque for €300 to help with rent, but everything else of our initial funding went to the team and the company’s needs. It hasn’t been easy on my wife, either. I know it’s hard on our team’s personal lives, but I can’t help but believe the hard work will pay off, and we’ll be able to make it right in the future.” Dreamloop as a studio was slowly building momentum, until their former employer tried to sue them.

LEGAL THREATS

Stewart received a inviting him to revisit his previous studio to hear a potential solution to Dreamloop’s monetary struggles. First, he was offered outsourced work. Then, the true motivation was revealed.

Because Stewart and his team had pitched their game concept while working at this studio, they claimed the concept and rights to the game belonged to them.

“They were trying to take away our dream,” Stewart says. “We’d been building hype in Finnish media for our game and there were stirrings about our Kickstarter plans. When our former CEO said he’d love to hear about the project, we knew he had ties to some big publishers and the studio was doing well, so we swallowed our pride and took the meeting.

“He said we were developing an IP owned by their company. He insisted they had taken ownership when we pitched the concept, and that, despite the fact that they had never bought the rights from Hannes, they owned it because the pitch with design notes and a specific name had been uploaded to their Google Drive. He then informed us of a stipulation in the contracts we had signed that said any IP we created – even in our private time – while under the employ of that company was owned by them. He said we had to change the name, or else they would sue.

“He said: 'What do you want me to do? The file is on

Dreamloop has struggled through adversity and now have a chance to succeed our servers.’ I looked him right in the eye and replied: ‘I want you to fucking delete it, because it’s not yours’.”

Convinced this was a tactic to scare a competitor, Stewart consulted Taina Keränen, a contract law specialist. His contract wasn’t in effect at the time they pitched the game as his initial contract had lapsed and the CEO had continuously put off our negotiation in favor of a “handshake agreement”

Despite this, the Dreamloop team took the decision to change the name, tie up loose ends and make the problem go away. As a result, *Challenges of Khalea* continued to take shape. Stewart is keen to see that no other indie finds themselves in facing the same problem.

“Know your contract, know the law,” he advises. “In cases like that, if you haven’t explicitly sold the rights, or given them away, they definitely don’t own them.

“It’s scary as hell to think that arbitration can ruin companies simply because they can’t afford to fight back for their rights.

“There needs to be more support for devs trying to retain ownership of their IP. It’s sad that it can be taken from them with such impunity if someone has the power of a well-funded studio who might have a lawyer on retainer.”

A TROUBLED START

With the threat of legal action behind them, Dreamloop still had financial worries hovering over the studio.

The answer, they thought, would be a Kickstarter campaign. However, Finnish studios were not allowed to use crowdfunding platforms due to strict laws regarding fundraising. You could accept money without providing goods or a service.

Stewart considered moving to Sweden, but instead wrote a letter to the president of the Republic of Finland, explaining how this was harming Dreamloop and other Finnish game studios. Media attention and the support of a Finnish member of parliament paved the way for reform, but eventually Dreamloop opted for another solution.

A friend introduced the team to a US lawyer, forming a corporation that could run a Kickstarter. It would cost Dreamloop the last of its resources, but the team were determined.

Dreamloop raised over €6,000 towards *Khalea*. The team were thrilled. But then support dried up. Contributions stopped coming in and Dreamloop realised it would fail to meet the Kickstarter goal.

The merger with Vasara Entertainment gave Dreamloop new hope and funding

“I was gutted as it was largely my responsibility to ensure its success,” Stewart recalls. “The team sat down, talked, and decided to keep working anyway.

“We looked at the core ‘fun’ elements of gameplay and refined the idea to something more manageable. We’ve continued production, secured more funding, and started looking for publishers to keep this alive.”

> **They were trying to take away our dream.**
>
> *Steve Stewart*

KINDRED SPIRITS

A solution was presented by Vasara Entertainment. The fellow Finnish developer had taken inspiration from Dreamloop and all it had suffered. Vasara was facing its own troubles, finishing *Stardust Galaxy Warriors*. After discussions between both teams, Dreamloop decided to help and the two studios merged.

Work on *Khalea* was paused while Stewart’s team assisted with the development of *Stardust Galaxy Warriors* – which launched just 11 days after the *Khalea* Kickstarter failed.

“Merging with Vasara was a wise business decision all around,” Stewart says. “It gave us a revenue stream that would allow for continuing development, it gave us a nearly finished title that we could port to console and re-invigorate, and most importantly it gave us four strong team members to add to the firepower of Dreamloop.

“We used the merger to partner with Sony and Microsoft as third-party publishers, then used those partnerships to leverage funding from economic development agencies.

“What they got in return is a team that deeply understands project management, business elements, and knows their way around securing funding. We built a team that just won’t die.”

Dreamloop is a prime example of how indies can overcome incredible obstacles on their quest to build the games they love. The experience, though tough at times, has given Stewart optimism for any studios running out of options or funding.

“No one wants to ask for help, but I honestly feel like that pride is why the success rate of studios is so abysmal,” he posits, now that presumably the worst is behind him and Dreamloop.

“Everyone is tied to their ideas and dreams, and we are too, but in this industry sometimes you need to be able to make compromises, take decisions which make fiscal sense, so that you can stay in the game long enough to make your dream projects.

“The biggest lessons learned here were that if you refuse to accept failure – because failure truly is the most readily available option – you just might make it. Might.

“We’ll find out in the coming months if we wind up with two successful titles at market, or just some memories, a lot of experience, and even more debt.

“My advice to developers is that you can’t let success go to your head, and you can’t let failure go to your heart. You also can’t take shit from people who try to bully you.

“You will run into all three of these things on the road you want to travel. But I have to believe it will be worth it in the end.” ■

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BAFTA's colourful games crew with their peers from the film and television industries

SOON TO BE

Five games professionals have been given the honour of becoming a 2016 BAFTA Breakthrough Brit. **Jem Alexander** finds out what this means to each of the honourees and how it could affect their careers in the future.

The fourth annual BAFTA Breakthrough Brits awards ceremony took place this month. During a lavish event in London, five members of the UK games industry were honoured with the award, taking their places within an exclusive club among the rising stars of the UK games, film and television industries.

"BAFTA Breakthrough Brits is our new talent initiative showcasing, celebrating and supporting the up-and-coming British creative talent," says Anne Morrison, BAFTA Chair.

"It's a fantastic opportunity for us to not only shine a light on the future stars of the industry, but to provide them with a wealth of support to help them as they progress in their careers.

"We're now in the fourth year of the initiative, and we've already seen honourees go on to greater success, including BAFTAs for Daniel Gray and Rex Crowle, as part of the teams for *Monument Valley* and *Tearaway*."

These honourees receive one-to-one mentoring from industry veterans like Double Fine's Tim Schafer, as well as an international travel bursary allowing them to attend some of the industry's many global networking events and parties.

With the Breakthrough Brits, BAFTA is trying to predict future BAFTA award winners. "Supremely talented individuals with passion and drive, who've clearly identified how they might benefit from BAFTA's support, and are willing to make the most of that opportunity," says Morrison.

These awards continue to highlight the strength of UK games developers.

"Games has been one of the three pillars of BAFTA for over a decade," says Morrison. "Our growing BAFTA membership from the games industry reflects importance of games as a cultural art form.

"We hope that Breakthrough Brits will help to turbo charge their careers, helping to open doors, and furnish them with skills, insights and professional relationships that they can take with them as they progress to greater heights."

Alex Grahame, artist at The Chinese Room, hopes to use the recognition to signal boost her call for a more inclusive, diverse industry. "Having my voice as a gay woman supported by BAFTA will help to show a broader representation of the people who make games and how the industry should be an inclusive environment available to anyone," she says.

"BAFTA Breakthrough Brits will allow me to meet with high profile, influential people from the games industry that I can connect with, share information, advocate for inclusive practices and make a difference. I feel very proud of my accomplishments to date. Being recognised as a BAFTA Breakthrough Brit feels incredible!"

Other honourees see it as validation in a space which can so often feel misunderstood. Creative director at No

2016 BAFTA Breakthrough Brits

Alex Grahame
Artist at The Chinese Room

Jon McKellan
Creative director at No Code

Jodie Azhar
Lead technical artist at Creative Assembly

Matt Hyde
Creative director at Glitchers

Tim Wicksteed
Independant developer

FAMOUS **FIVE**

Code, Jon McKellan, says that "it's an honour to be named as a Breakthrough Brit, especially in an industry as full of amazing, creative developers as it is. Where I grew up, being creative for a living was often dismissed as 'a dream' and not something attainable. It means so much to me that I can prove that wrong and hopefully inspire young people, and my own kids."

"Working as a lone developer, I have to rely on external sources for validation," says indie dev Tim Wicksteed. "For this reason, being named a BAFTA Breakthrough Brit is a very special achievement for me."

Wicksteed hopes that this will open doors as they progress in their careers. Not only does the accolade come with a certain cachet, but the networking events and opportunities to meet legendary industry veterans gives them the ability to learn at their feet.

This is a particular benefit for Jodie Azhar, lead technical artist at Creative Assembly. "The mentoring programme is what excites me the most," she says. "Because there tend to be fewer technical artists than other roles in games, I've not had anyone directly above me to learn from in most of my jobs. Having the chance to gain insight and advice from people further along in their careers will be invaluable in helping me to make better games."

Across all of the honourees there's an air of gratitude about the initiative. An appreciation of the fact that it's not a popularity contest and that emphasis is placed on skill and ability.

> **Having my voice as a gay woman supported by BAFTA will show a broader representation of the people who make games.**
> *Alex Grahame*

"It's fantastic that BAFTA are able to identify individuals and studios within the industry that are not necessarily huge," says creative director at Glitchers, Matt Hyde. "By doing this it certainly shines a light on how diverse and great the UK games industry is."

Jon McKellan agrees, stating that "initiatives like BAFTA Breakthrough Brits help draw attention to the local industry and highlight just a sample of the wealth of excellent work going on in the UK. It's a noisy industry, but this initiative hands us the megaphone."

"BAFTA is such a respected organisation and known all over the world," Alex Grahame says. "To be considered as a BAFTA Breakthrough Brit by such an accredited charity gives recognition to the standard of the British games industry as one of the most successful in the world."

By now you're probably wondering whether you could be next. Perhaps 2017 is your year to become a Breakthrough Brit. Luckily, this year's honourees have plenty of advice for those of you interested in seeking recognition from BAFTA and the rest of the UK games industry.

Wicksteed believes that you should "have an idea of what your standout achievements are and what makes you special. For me, I feel like it's a jack-of-all-trades effect, the fact that I have the creativity to design a game, the technical skills to create it and the business acumen to market it successfully. Others will have much more intense skills in a single area. That's great too."

"I'd definitely recommend applying," says Jodie Azhar. "It's important to keep showing off the emerging talent within British game development but initiatives like Breakthrough Brits need to be aware of those people in order to do so.

"During the application you can only be assessed on the information that the jury have, so you need to make sure they know about all the successes in your career."

"I would recommend anyone who wants to make positive change in the games industry apply," says Alex Grahame.

"Only with diverse role models represented publicly can we encourage more people to consider games as a career."

So, make sure that portfolio is up to date and put in your application. I look forward to seeing you listed here this time next year. ■

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YOUR MONTHLY GUIDE TO THE BEST CAREER OPPORTUNITIES

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Santa Monica, home to sun, sea and serious game development
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Her Majesty's SPIFFING is one of the games Northern Ireland Screen's Aim High Trainees have been working on

NORTHERN IRELAND IS LOOKING FOR DEVELOPERS TO LEAD ITS GAMES INDUSTRY AND THAT COULD BE YOU

Northern Ireland Screen's Donal Phillips tells **Develop** why devs should consider moving to the province

Whether you're an aspiring developer looking for that first step into games, or an established one seeking a fresh challenge, Northern Ireland welcomes you with open arms.

Government backed organisation, Northern Ireland Screen, is sparing no expense to attract the best developers via its trainee schemes.

"The games development industry in Northern Ireland is certainly promising and moving in the right direction at a relatively fast pace," interactive content executive Donal Phillips tells *Develop*.

"The blossoming of the industry is the result of several factors, including the opening up of digital distribution channels, the democratisation of development tools and the growth of the Northern Ireland animation and VFX sectors. And, of course, Northern Ireland Screen's strategy to help grow this particular sector."

This strategy includes skills development programmes such as the Northern Ireland Games Academy, a 12-week training course that focuses on team work, fundamental tools such as Unity3D, Maya and Photoshop and ends with a four-week work placement.

"Following their time at the Academy six candidates are then selected for the Aim High Gaming scheme," Phillips explains. "The aim of the scheme is to develop the future leaders of the games industry in Northern Ireland. The selected trainees take part in a 12-month paid industry traineeship. They will complete various placements with different Northern Irish game development companies, covering all aspects of the game development process."

> **The aim is to develop the future leaders of theindustry in Northern Ireland**
>
> *Donal Phillips*

But this is not the only initiative supported by Northern Ireland Screen to attract new talents. The organisation has also partnered with Immersive Tech NI to launch a VR focused event, simply called Hackathon.

"Hackathon was brought to Northern Ireland Screen by Immersive Tech NI – a group of enterprising software developers, designers, technologists and programmers who needed access to games developers and creatives in order to maximise the possibilities created by the likes of VR and AR," Phillips explains. "It will be an opportunity for those involved to collaborate on developing an idea, building a prototype and presenting it to a panel of judges, while being mentored by some of the leading businesses from both communities."

Hackathon is taking place between November 4th and November 5th, but Phillips would like the initiative to become a regular meeting.

"It is hoped that the Hackathon will become an annual event, cementing the importance of the marriage of both creativity and technology and that businesses will benefit from the ideas and applications which emerge." ■

MOVERS AND SHAKERS

The latest high-profile hires and promotions

NEWBAY MEDIA

*NewBay's games division is evolving, as **JEM ALEXANDER** takes over as editor of Develop.*

Joining from Riot Games, he has previously worked in both journalism and PR for the likes Square Enix, OXM, Sony and Joystiq.

"I'm excited to be taking the helm at Develop," Alexander commented. "It's an opportunity to take a franchise with a rich, respected history in the industry and, alongside a new editorial team, continue its evolution to further explore, discuss and inspire the constantly changing world of game development."

*Alexander will be working alongside **SEAN CLEAVER**, who was appointed deputy editor last month.*

*Meanwhile, Develop's sister title MCV has hired **SETH BARTON** as its new editor and senior staff writer **ALEX CALVIN** has been promoted to deputy editor.*

Barton was formerly editor at Expert Reviews and, as a freelance journalist, has written for the likes of Stuff, The Metro, The Mirror, PC Pro and Wired. A veteran in the industry, Barton has been selling, publishing, writing about and reviewing games for over 20 years.

He stated: "I'm thrilled to be joining the excellent team at MCV at an exciting time for the industry. Virtual reality is here, the traditional console cycle is being disrupted, the lines between mobile and TV gaming are blurring, eSports are on the rise, while the shadow of Brexit looms large. We'll strive to make MCV an essential source of information for everyone who sells, publishes or develops games in the UK, as well as acting as a forum for constructive discussion across the industry."

CURVE DIGITAL

Former Sony executive producer BRYNLEY GIBSON is Curve Digital's new head of studios.

He will lead Zöe Mode and Headstrong Games studios and be in charge of the VR and AR work for hire divisions.

Gibson started in the games industry in 2003 at Lionhead, where he was associate producer and project lead for over three years. He then joined Headstrong as producer in 2006 and Zöe Mode in 2009 at the same position. After spending nearly three years at Sony leading the London Studios' VR team, he's now back at Curve.

"I'm delighted to take up the new role, heading up Curve Digital Entertainment Studios," said Gibson. "It's an incredibly exciting time and I'm very happy to be a part of this fast-moving business."

CEO Dominic Wheatley added: "Brynley's experience in producing million-selling and critically acclaimed games is second to none. In addition, his more recent successes in VR means that we are in an excellent position to provide cutting-edge development services in this fast-moving, cutting-edge space."

PRODUCER OF THE MONTH

This month, we catch up with Conor Crowley, senior producer at Jagex

Photography © David Portass

Tell us about your career to date and how you ended up at Jagex.

My career started in QA on *APB* with Realtime Worlds. I always wanted to be part of the industry and was looking for a way in after finishing my masters. QA taught me a lot about the practical challenges of making a game and running teams rapidly.

After the close of *APB* in 2010, I was brought into Jagex to manage the QA team on an unreleased MMO. I gained a reputation for fixing problems and building teams.

I moved from QA to production where, over the past five years, I have gained more and more responsibility. I have managed small content teams, re-organised the technical team responsible for the in-house engine's expansion and maintenance, helped define the process for the development of a new game and eventually ended up as the senior producer on the company's main title – *RuneScape*. I am now directly responsible for its expansion and performance.

Describe a typical day for you.

As *RuneScape* is a live service, my day starts when I wake up, with a coffee and a run through of the previous day's performance. After this, each day tends to vary. I check up on the progress of the six scrum teams who are developing content for *RuneScape*, to see if everything is on track.

I'll try to find time to catch up with one of the team's product owners or leads to see how they and their teams are getting on, or I will try to lay out the future plans for the product with the lead designer.

Other than that, I will be working on a particular change or update. *RuneScape* updates so frequently that I am blessed with a variety of new problems on a daily basis.

What are the biggest challenges you face?

RuneScape is a veteran in the MMO world. We have a fantastic and engaged player base who love to be involved in the game's development and direction, and the dev team is exceptionally open to their feedback. This can cause some interesting challenges as we tweak and alter updates to the game, addressing their preferences or concerns.

What's been your biggest achievement to date?

Getting to where I am. The *RuneScape* team is made up of enthusiastic and talented developers who show true passion, even after all these years. To be counted among them is fantastic. To be considered responsible for them, so that they can continue to do their great work, gives me a warm feeling. ■

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THE **IRISH** WAY

CEO of Digit Game Studios, Richard Barnwell, tells **Marie Dealessandri** about the firm's continued growth and what the studio is looking for from a recruitment perspective

The last time Develop talked to Irish mobile studio Digit about its recruitment needs was during Summer 2015. Back then there were exactly 23 people in the team picture CEO Richard Barnwell sent over to us. Over a year later, we could sense his pride as he sent over the new team photo that you see at the top of this very page.

"Today, we find ourselves at 60 people strong and growing fast," he says. " We are building a new triple-A quality mobile title and we will be releasing this soon. On top of that, we're also still supporting [Digit's first game] *Kings of the Realm*. We are Ireland's largest game developer and have amassed one of the most talented teams in the industry."

And there are no plans to stop there. The studio is still looking for talented devs to join the team.

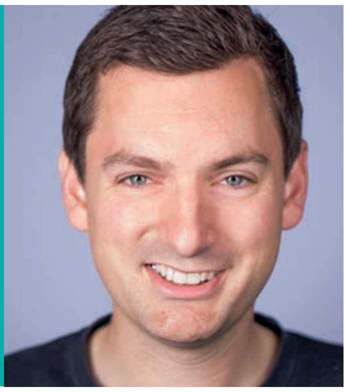
"We have grown rapidly over the last year and we have over ten open vacancies," Barnwell continues. "The biggest shift has been increasingly looking for people with deep experience. We have some exciting and specific challenges in front of us and we need to hire people who have been there and done it before."

The CEO adds that his biggest priority right now is finding senior production roles and lead designers.

"Experience in mobile free-to-play strategy is important to us. This can be challenging as it's a pretty small market to target," he continues.

Digit's new members will be able to work on the aforementioned unannounced triple-A title.

> **We are Ireland's largest game developer and have amassed one of the most talented teams in the industry.**
> *Richard Barnwell*



"It's a mobile strategy game of scale and visual fidelity that will push the limits of what people have seen to date," Barnwell reveals.

"It's based on a huge Hollywood IP, one that everyone knows and so many people love. We have a huge opportunity to release something very special."

HONEST, HUMBLE, HUNGRY

When asked about what developers should be doing with their CV to land a job at Digit, Barnwell's answer is pretty clear: "Brevity. Keep it to the point, simple to read and highlight the relevant skills and experience. We love people who are passionate about their subject. Those who read around their subjects, live and breath it. Games experience is a must."

And UK devs shouldn't be afraid to apply and relocate to Ireland, he further states.

"We've hired a lot of people from abroad over the last couple of years. In fact, over half of the team now comes from outside of Ireland.

"I relocated my family from the UK to Ireland, so I know the importance of getting this right, especially if people joining us have families, houses and, of course, pets.

"We step in, give a dedicated contact and handle everything and every expense."

The other perks available at Digit include "a fully stocked kitchen", "arcade machines" and "top of the range Macs" Barnwell adds.

"But what's most important is that we do the basics right. Part of this is our stock program, a scheme where every member of the team has stock in the company. Or our private health care for family members.

"Most importantly, we are a company that listens and changes based on the team.

"People are empowered not only to shape the games they are working on, but the company they are in. I think we've all worked in environments where this is not the case – and it's demotivating.

"I would like to think that people at Digit can see the impact they are having. The biggest perk of all is that they can have that level of impact."

He concludes: "We like to live by three values – 'honest', 'humble' and 'hungry'.

"We try to be honest about what we are good and bad at. Humble means we put our heads down and let our games and numbers tell our story. Hungry – because we want that success more than anyone.

"We are creating genre defining games and building a career defining company." ■

GET THAT **JOB**

This month:
Head of core tech with Jagex's **Mat Burnett**

What is your job role?
Head of core tech – this means I oversee the developers who work on the *RuneScape* engine. Client side rendering, backend systems, build pipeline, in house tools and the technical QA team. We are also responsible for the live operation of the software it takes to run *RuneScape* for the hundreds of thousands of people who visit us every day.

What qualifications and/or experience do you need?
Experience as a software developer is a must. Games experience helps, but as long as you have a solid software background and can talk to your experts, you can succeed. Some qualifications in project management and agile development are essential. You are going to have many complex projects on the go and they may all run differently.

How would someone come to be in your position?
I believe you can't manage technical people effectively unless you have done some of what they do. Start by working as a software engineer. You also need to be increasing the time you spend focusing on how work gets done. Take on project management experience as you work until you make a switch into managing projects as your primary role. It's helpful to have some experience in a regulated environment so that you gain expertise in process, but it's critical that you have spent time leading agile projects and planning technical work in Scrum or Kanban. Ultimately managing is about people and if you are going to lead a department you need to get as much soft skill training as you can. It always feels a bit vague when your profession is technical but it is what you will spend most time doing so embrace it.

> **I need the work you do to enable those around you to be better.**
>
> *Mat Burnett, Jagex*

If you were interviewing someone, what do you look for?
I'm always in the market for good development staff and we have open roles at the moment, such as some game engine developers. I'm looking for someone who can work effectively in a team. I need the work you do to enable those around you to be better. The more senior the role, the more important that becomes. I also look for someone who cares about the craft. The quality of the work we produce is critical as we run a 24/7 live game. Things move fast and we don't get too many second chances to fix live mistakes. The last item is a passion for gaming, it can be whatever game you like, but this industry needs some love.

Why choose to follow a career in your field?
Managing a department of game engine developers can be a daunting task. There is no way you can know more than all of your staff. It's just too complex. If you can handle the idea that you might never again be the smartest person in the room, you will realise that you learn something every day. Leading good people is an incredibly satisfying experience and their achievements provide enjoyment for millions of people. ■

SKILLS AND TRAINING

This month: Lecturer in digital design and program leader Mick Lockwood talks about the University of Salford's unique educational offerings

Overview: Salford Uni's offering includes FdA Games Design, BSc (Hons) Computer and Video Games, BSc (Hons) Computer and Video Games with Industry Placement
Address: MediaCityUK
University of Salford, MediaCityUK
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E: m.g.lockwood@salford.ac.uk
W: www.salford.ac.uk

The University of Salford is quite unique in the sense that it's not only offering computer sciences degrees but programs associated with different disciplines.

"We combine traditional art and design practice with computer science through a culture of making," says lecturer in digital design and program leader Mick Lockwood.

"In the first year each and every student studies programming, at the same time as developing a fundamental artistic creative skillset and awareness," he continues. "From board games to 2D development platforms, by the end of the first year students are ready to opt for an art or programming pathway having experienced both sides of the coin. At Salford, students can be painting a portrait or be in a workshop building arcade machines with a laser cutter and 3D Printer in the morning and, in the afternoon, be building custom classes in C#. It is this balance of Homo Faber and computer science that gives us the edge."

> **By the end of the first year students are ready to opt for an art or programming pathway.**
>
> *Mick Lockwood*

The University of Salford doesn't have partnerships with local games companies, but offers an interesting alternative to the traditional program.

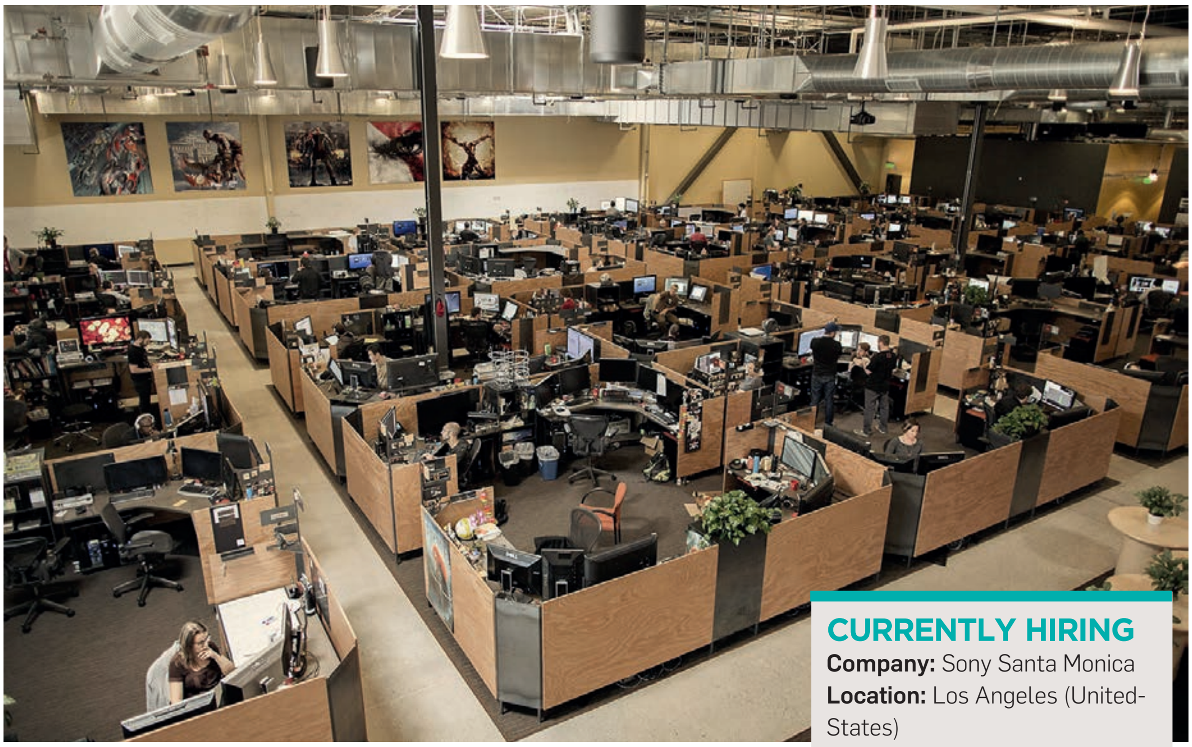
"Formal relationships with companies are being forged as we develop our WIP (With Industry Placement) variant of the program. We take advice, engage with, and place students within the likes of Matmi, The Neighbournood, Yippee Entertainment, Fabrik, MI, d3T, Big Brand Ideas, Lamplight and Torque Studios," Lockwood explains.

At Salford Uni, students have access to Unity, C# training and Visual Studio.

"On the art side there's the usual creative suite, Max, Maya, ZBrush, Mudbox," the program leader adds. "We have run VR based projects with Oculus and this is something we hope to expand. We simulate a full digital industry workflow, engaging Trello, Slack and Perforce for version control on dedicated server with off site connectivity." ■

RECRUITER **HOT** SEAT

Shannon Studstill, head of Sony's Santa Monica Studio, talks to **Develop** about the perks available at the God of War studio – and that includes being walking distance from the beach



What differentiates your studio from other developers?

At Santa Monica Studio, creativity rules. We consider everyone here a creative, whether you are building a level, creating concept art or analyzing figures on a spreadsheet. We believe investing in the individual, by recognizing strengths and encouraging development, is the key to the whole team's success. The management philosophy here is unique in that it encourages people to think creatively and collaborate with one another to solve problems and overcome the challenges of working on a large-scale project like *God of War*. We believe this creative energy, along with a passion for the craft, will ultimately lead to delivering high quality products.

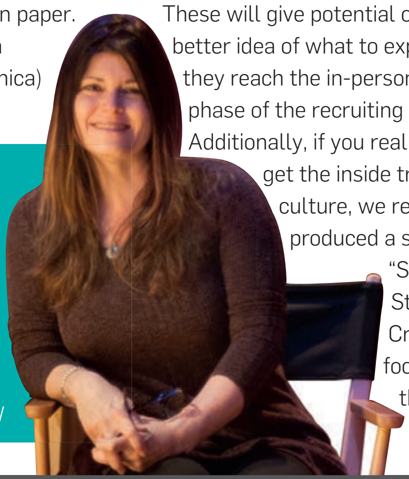
What perks are available to working at your studio?

One of the things people enjoy most about working at our studio is the facility itself. With only a few blocks between the office and the beach, you can't beat the location. We also share a remarkable 20-acre campus with several leading tech and media companies. Our space features a fully equipped kitchen and onsite cafe, a game room with both PS4 games and classic arcade titles, a ping pong table, a sand volleyball court, board game nights, employee-organized group sports, weekly fresh fruit delivery, and company sponsored local gym memberships. To stimulate individual growth, we also offer a variety of workshops focused on inspiring creativity — life drawing classes and sculpting demonstrations. The design of our work space features a unique, open layout that keeps the lines of communication open and moving throughout the team. We also throw annual parties in the summer and during the holiday season, along with regular celebrations that recognize significant team milestones and PS4 game launches.

What should aspiring devs do with their CV to get an interview?

Beyond wanting to see the breadth of your skillset and an outline of your experience and capabilities, we are also interested in getting to know you as an individual. Be sure to include anything that might give us a glimpse into who you are outside of work. The hobbies and passions of our candidates are always great to learn about, as we are looking for people to join our family. We like to see the person as a whole, rather than simply reviewing a list of skills on paper. Catching our attention on Twitter (@SonySantaMonica) or dropping us a line at sms@sony.com are also approaches that we welcome.

> **We consider everyone here a creative.**
>
> *Shannon Studstill*



What advice would you give for a successful interview at your studio?

We recommend candidates take a look at the "What it Takes" articles featured on the Santa Monica Studio website. We recently added this series of candid interviews with team members from a wide range of disciplines to give people an inside look at our culture and how we operate on a day–to-day basis. These will give potential candidates a better idea of what to expect when they reach the in-person interview phase of the recruiting process. Additionally, if you really want to get the inside track on our culture, we recently produced a series called "Santa Monica Studio Creatives" that focuses on three notable members of our family, whose journeys to our studio are as inspiring as the creative talent they possess.

CURRENTLY HIRING

Company: Sony Santa Monica
Location: Los Angeles (United-States)
Hiring: 20-30 positions across disciplines, with nearly half of those being regular/full time.
Where to apply: sms.playstation.com/careers/

Who is the best interviewee you have ever had and how did they impress you?

One of the best/most memorable candidates attended a recruiting event and brought an actual prototype for a toy action figure to show us, rather than just a portfolio. This prototype allowed us to see, all at once, a broad representation of her design skills. Not only had she created the character itself as well as the packaging, but every design strength that she wanted to showcase came to life in that one example. It is not often that someone takes the time to come up with such a memorable way to promote themselves and their talents. ■

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MOTION CAPTVRE

With recent improvements to hardware and software, plus an increasing emphasis on real-time, interactive performance capture, we could be on the precipice of a golden age for motion capture technology. **Jem Alexander** investigates recent progressions in mo-cap technologys

Motion capture, and the way it is used in game development, is improving rapidly. No longer used solely by animators to record and store an actor's performance, the technology is expanding into new areas. Those working with it on a daily basis are excited to see where this might lead.

Technology's inevitable march forward means that motion capture can now occur in realtime, with an actor's movements being instantly reflected in a game. Not only does this benefit animators by streamlining their process, but it also opens doors to other applications, like virtual reality. The HTC Vive, Oculus Rift and PlayStation VR all take advantage of motion capture technology to allow players to interact with virtual worlds. Not as advanced as that used in an animation studio, perhaps, but with time this can only improve.

> **Using mo-cap to see your own avatar allows you to actually feel the environment as well as see it.**
> *Brian Mitchell, Audiomotion*

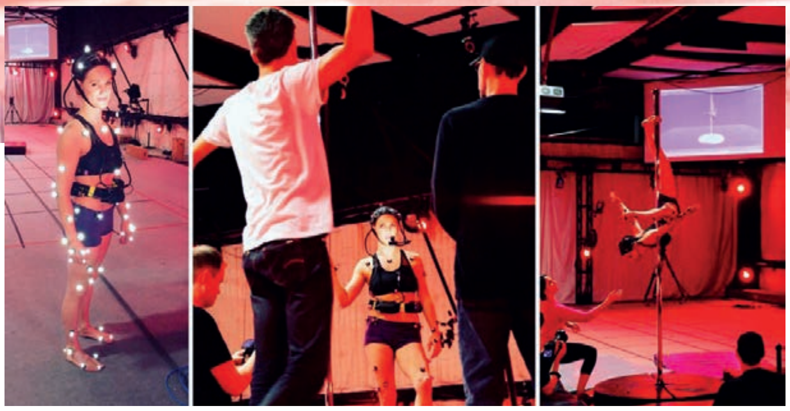
"The biggest advance in mo-cap, in my opinion, is linked to the VR push," says Alexandre Pechev, CEO of motion capture middleware provider IKinema. "With the advances in VR hardware, motion capture technologies have moved to our living rooms and offices. Mo-cap will inevitably become part of our everyday life."

Motion capture studio Audiomotion's managing director, Brian Mitchell, agrees. "The fact we can stream live data through to game engines has had a massive effect. Matched with VR, this means developers can really let loose with their creativity," he says.

It seems that only recently have all the many individual steps in motion capture technology culminated in a great leap forward for the industry.

"I think the biggest development this year has been the jump in combined technologies and approaches in realtime full performance capture," says Derek Potter, head of product management at Vicon Motion Systems. "There's been steady progress over the past five years in the area of realtime full performance capture, however what we've seen previously is progress on single fronts.

Game characters are more expressive and life like than ever



"What we find really exciting about the past year is seeing different developments coming together. It feels like this is moving these types of captures from being investigative to being more fully realised and production ready."

It's not just the games industry that is enjoying these developments. Motion capture is the same wherever it is used and everyone is learning from one another. "Different industries use the same game engines for realtime rendering, the same mo-cap hardware and the same solving and retargeting technologies for producing the final product – animation in realtime," says IKinema's Pechev. "We are already at a point where the entertainment sector is sharing hardware, technologies, approaches and tools."

Dr. Colin Urquhart, CEO of Dimensional Imaging, sees this as a good thing for everyone. Especially since some areas of the entertainment industry have been at it a little longer than us. "The use of helmet mounted camera systems for full performance capture was pioneered on movie projects such as Avatar and Planet of the Apes, but is now becoming widespread for use on video game projects," he says. "People see how effective this technology is in movies and expect the same effect in a video game."

Full performance capture like this, which simultaneously records body and facial movements, leads to much more realistic actions and expressions. Something that can really affect your immersion in a world or your feelings for a character. Peter Busch, VP of business development at Faceware Technologies, a motion capture company that focuses on facial animation, says that "characters in today's games are already pushing the realism envelope when it comes to facial performances, but that will only increase with time. Look for more realistic facial movement and in particular, eye movement, in the games of tomorrow".

"It's one thing to watch an animated character in a game," Busch continues. "It's quite another to interact with one. Today, we're able to interact with characters animated in realtime via live performances or kiosks at theme parks. It's rudimentary, but it's effective.

"Tomorrow, we'll be able to interact with player-driven characters or AI-driven avatars, in game, in realtime. Imagine saying something to a character in a game and having them respond to you as they would in real life. This will change the face of games."

Virtual reality will be a huge beneficiary of these improvements to facial animation, as developers scramble their way out of the uncanny valley. Classic NPCs feel significantly more like dead-eyed mannequins within a VR environment and improvements in this area could go a long way towards truer immersion and deeper connections with characters and worlds.

"The key to an engaging experience, especially in a new medium such as VR, is connecting users with a powerful story and characters by drawing upon the emotional, character-driven, and nuanced performance from the faces of the actors," says Busch. "[With today's technology] studios are able to capture the entire facial performance, including micro expressions, and display those subtleties in convincing ways."

Vicon's Derek Potter is in agreement and suggests that improvements in motion capture could mitigate the effect of the uncanny valley, if not remove it completely. "Nothing immerses like the eyes," he says. "The one thing that each new generation of console has provided is more power. More power means better, more realistic visuals. Motion capture provides the ability to transpose 'truer' movements onto characters.

"The mind is a brilliant machine and one of the things that it does amazingly well is to let us know when something 'doesn't look quite right'. This lessens the immersiveness of the gaming experience. What excites us about the next generation of consoles is the increasing ability to render realistic graphics, combined with the motion capture industry's progress in capturing finer and more realistic movements to let us all sink a little deeper into the game. I think this is amazing, both as someone working in motion capture and as a gamer."

As advances continue to be made to motion capture technology and

VR and mo-cap are blurring the lines between life and games

software, we're seeing a drop in price for mo-cap solutions. "I think it's easier for developers to incorporate motion capture into their projects than ever," says Dimensional Imaging's Urquhart.

"Mo-cap used to be a tool used exclusively by big studios or developers on big budget projects. This is not the case anymore. There are many tools on the market for capturing an individual's face and body performance. Mo-cap tech doesn't have to be a premium product."

This accessibility helpfully comes at a time when even small indie developers might be looking into motion capture solutions, thanks to the recent release of consumer virtual reality devices. "VR controllers act as a realtime mo-cap source of data," says IKinema's Pechev. "Using this to see your virtual body reacting to your real movements changes completely the quality of immersion."

"Using mo-cap to see your own avatar allows you to actually feel the environment as well as see it," says Audiomotion's Mitchell. "It really does turn your stomach when you see your own foot moving closer to the cliff edge."

With motion capture now more powerful, accessible and interactive than ever, where does the industry go from here?

"The demand for mo-cap is definitely going to increase over the next few years and games projects will require better and better acting talent and direction to meet this demand," says Dimensional Imaging's Urquhart.

> **Games projects will require better and better acting talent and direction.**
>
> *Dr. Colin Urquhart*

"Improving on the realism means increasing the fidelity of motion capture, particularly of facial motion capture. Using techniques such as surface capture instead of marker based or facial-feature based approaches can help with this."

Faceware's Peter Busch has plans in mind to solve the issues inherent in facial motion capture, particularly for VR. "The next frontier is creating even more realistic and immersive experiences across the board, including new experiences like realtime user-driven VR characters that are realistic in every aspect, right down to the user's facial expressions," he says.

"Current cameras are insufficient for capturing true social VR. There is no way to capture a VR user's entire face while playing VR. Our interactive team is actively developing hardware and software solutions that we're planning to launch this coming year."

Vicon's Derek Potter believes there's still plenty of work for providers to do to make mo-cap the best it can be. "I think there are three way that providers can help in continuing to push motion and performance capture forward," he says. "[Companies] like Vicon need to continue to do what we've been doing steadily each year, which is to continue to improve the fundamentals of the motion data provided. The accuracy, reliability, overall quality and speed of the data are all vital.

"Secondly, as motion capture matures as a technology, we need to see it not only as its own entity but also as part of a bigger machine. We need to continue our efforts to integrate and provide more open access to the data provided by the system. The third thing we need to do is to listen to some bright lights in the field who have been pushing technics forward recently. The technology needs to be pliable enough to fit the new and evolving needs that performance capture demands."

Meanwhile, IKinema's Alexandre Pechev won't be happy until motion capture technology is perfected. "[I want] better and simpler (ideally non-invasive) types of motion capture combined with realtime solvers that automatically improve issues and deliver perfect animation," he says, ending with some blue sky thinking that in the past would have been a better fit for a sci-fi novel than a game development magazine.

"My dream is to see a mo-cap system that reads brainwaves to deliver the muscle movements of all bones. Maybe one day..." ■

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HOME IMPROVEMENTS

Now might be the best time to invest in an in-house motion capture studio. **Jem Alexander** talks to UK devs with their own pro setups to find out how effective and affordable it can be

Is it time you built your own motion capture studio? In recent years we've seen a huge increase in the need for in-house mo-cap solutions to keep up with constantly improving game hardware. Emphasis on realism and film-quality performance in games means high quality character movement is a must. Some developers are choosing to invest in a bespoke motion capture stage setup, tailored to their needs, rather than booking space through a third party.

“We built our setup at the beginning of *Hellblade*,” says Steven Manship, cinematic lead at Ninja Theory. “We wanted to have an in-house performance capture space to offer us ultimate flexibility in when we can shoot.”

In contrast, fellow UK developer Creative Assembly saw this trend coming and made their initial investment a long time ago. “We have been involved in the motion capture process for almost 20 years,” says Pete Clapperton, motion capture manager and animator at the studio. “Starting out with a very small, early Vicon setup, we have continued to add and upgrade over time to arrive where we are today.”

In those early days, Clapperton and the rest of Creative Assembly didn’t have a permanent space to film. “We would grab the kit from storage during the summer holidays, rent out a local school gym and capture as much as we possibly could, based on the current project requirements.”

It was only in 2012, when the dev studio expanded and began working on multiple new projects, that a decision was made to secure their own permanent motion capture space. This need for space appears to be the biggest issue when it comes to creating your own mo-cap studio. Actors need a large enough area to prance, jump and murder effectively.

> **“We can have someone in a suit and ready to go within half an hour of walking through the door.**
>
> *Pete Clapperton, Creative Assembly*

“Our room is 7m x 10m and we get a capture space of roughly 4m x 6m,” says Ninja Theory’s Manship. “A large cast with multiple cameramen may not be possible in a small space with a few cameras. It’s also difficult for some action and stunt work. Our low ceilings meant we had to hire another studio for some combat animations.”

But once you have a motion capture studio in place, the flexibility it offers far exceeds the entry fee.

"The studio is situated within a five to ten minute walk from both of our main sites. We can have someone in a suit and ready to go within half an hour of walking through the door," says Creative Assembly's Clapperton. "Having permanent, dedicated staff on site is also a massive bonus as it makes the studio availability almost instantaneous.

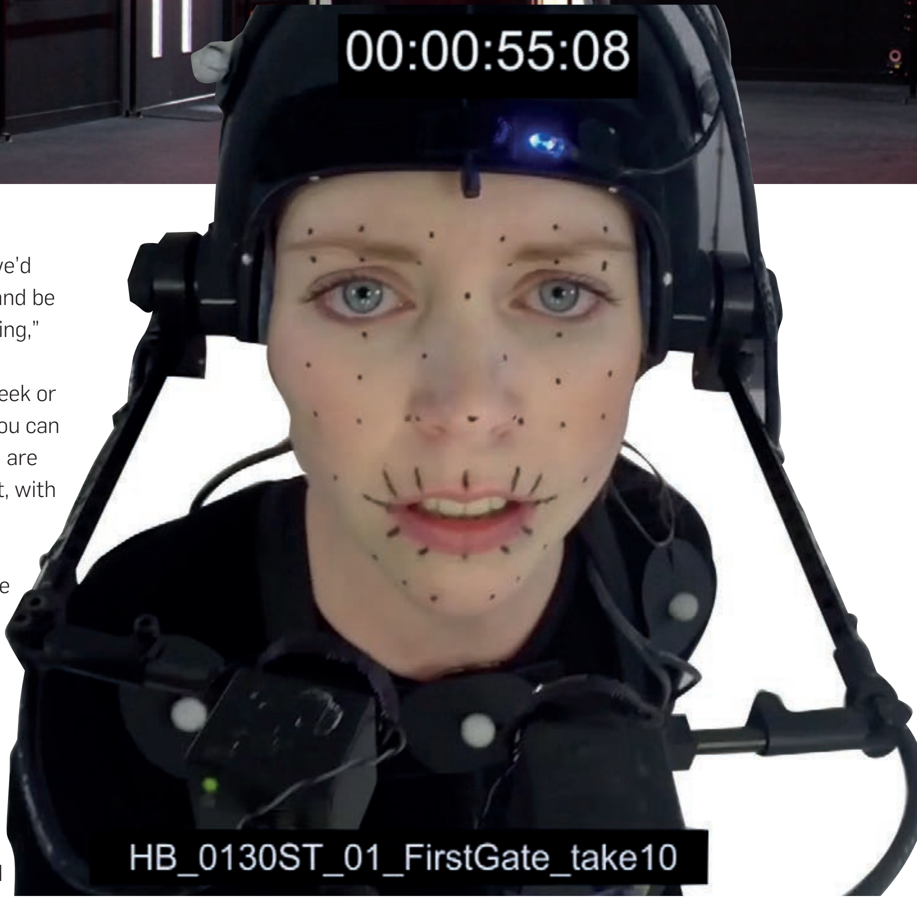
"We have tailored scripts, rigs and setups that reflect each department we work with – this is another benefit of having our own studio in-house."

This instant access to a performance space means developers can be much more agile with their workflow, iterating quickly and making last minute changes that would be harder, if not impossible, with a hired studio. "The main benefit is having the space available whenever we need it. Offsite we'd need to book well in advance and be more restricted in our scheduling," says Manship.

"For around the price of a week or two in a major mocap studio you can have a system on site that you are free to use whenever you want, with no difference in quality of the finished product."

"The unseen savings that are made overall are astounding," Clapperton agrees. "Even though there is a large initial outlay for equipment and the running costs associated with an internal mo-cap system.

"Apart from the benefit of having a tailored process for quick and accurate turnaround



Designing for motion capture

Not everyone has the space or the resources to build their own mo-cap solution, so dedicated performance capture houses aren't out of a job just yet. Asset production studio Evozon creates game art for developers. "One of the things we're working on adding to our portfolio of services is the creation of motion capture ready characters." says Tudor Fat, the company's lead artist.

Special requirements have to be taken into consideration when creating assets for a motion capture workflow. "The requirements for the characters are usually given by the design and the platform that they need to work in," Fat says.

"That means we need to pay a lot of attention to each and every character and deliver the best possible result. Usually, the cinematics characters that use the motion capture system have a higher poly count and texture resolution, as opposed to the in-game animation for characters which are more optimised for a better performance.

"From a technical point of view, the characters have to perform well in an action scene, which means great mobility in the articulations and extra poly loops in those areas, to ensure the flexibility of the character." It doesn't end with performance capture, though.

Once the data is gathered, "the skills and expert eye of the animator comes into play, which means polishing and correcting every frame and position so that it all looks perfect".

While there's precision and style intrinsic to good end-to-end manual animation, the speed of motion capture can't be downplayed.

"Mo-cap animations can be tested and reviewed in a very small amount of time and with minimum effort," explains Fat. "As opposed to key-frame animation which usually takes much longer.

"The mocap capture of the animation is the base from which the animator begins work, as it provides valuable reactions and micro-movements, that result in creating realistic character movement."

This realism is both a boon and a hinderance. For example, non-humanoid characters aren't going to be suited to motion capture.

"Non-humanoid characters are usually hand animated," Fat explains. "That's because on the one hand, they require a much more complex bone structure, and on the other, the mass of the characters is extremely different from the one of a normal actor. In most cases, that would make the mocap animation nearly impossible for an actor to perform."

Creative Assembly's impressive motion capture setup

of data for each project, we have the ability to utilise the studio for pre-vis work within our cinematics team and animation departments."

Once you've got hold of your cameras, the rest of of the setup can be completed relatively cheaply. With a bit of ingenuity and imagination, Ninja Theory were able to cut costs. "Our setup consists of 19 Vicon cameras," says Manship. "We use wardrobe poles from Ikea as a rig for the cameras, saving a fortune on rigging costs, and simple office lights from Amazon."

Another benefit to having your own studio in-house is the ability to upgrade and improve on your setup as and when you deem it necessary. Both Creative Assembly and Ninja Theory have added to their camera collections in this way.

"We obtained an additional number of cameras to add to our system when putting together our studio," says Clapperton. "Which gave us the opportunity to build on our knowledge and experience to provide Creative Assembly with an extremely high level of accurate data at a very fast turnaround."

Meanwhile, Ninja Theory very recently upgraded their mo-cap setup for the first time. "We've recently added 7 more cameras to our initial setup to improve the capturing performance, but other than that no upgrades have been needed," Manship explains. "The Bonita cameras do everything we could need. They are small, relatively inexpensive and specifically designed for smaller shooting volumes. They've been able to handle everything we've thrown at them so far."

So what should developers keep in mind when looking to create their first motion capture studio? "Tailoring your requirements to your needs is the first port of call," says Clapperton. "There are a number of systems out there that appear to do a similar job, but each one has its own pros and cons.

> **We wanted to have an in-house performance capture space to offer us ultimate flexibility in when we can shoot.**
> *Steven Manship, Ninja Theory*

"If you are very limited on space and do not require access to a system on a daily basis, one of the available markerless systems may meet your needs. They can be relatively quick and simple to set-up and do not necessarily require a dedicated space for capture."

For Manship, the whole process was almost too easy. "As for difficulties there's nothing major to mention," he says. "If anything was unexpected it's been how smooth and problem free it has been." ■

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SOUNDS **SIMPLE?**

What if games could communicate with – and respond to – myriad devices never intended to be connected? Chirp believes it has the answer, in the form of its sonic sharing technology

Game technology is so often defined by its complexity. Even the most elegant middleware frontend typically hides wildly intricate systems and abstract mechanisms for the creation of games.

Chirp, meanwhile, is notable for its simplicity. And as the technology moves into the game development space, that lack of intricacy grants it the potential to make quite an impact.

"In its simplest form, it's a sonic barcode," offers Moran Lerner, CEO of Chirp, the eponymous outfit behind a technology that was first nurtured in research labs at University College London.

"That's the best way to explain it," Lerner continues. "If you think of a QR code you can find in print or on digital media, Chirp almost provides that, using sound."

QR codes though are hardly a revolutionary force in the games industry. So what makes a comparable offering remotely interesting, especially at a time when studios are spoiled by the range of technology on offer to them?

The answer is really one of technological minimalism. Fundamentally, Chirp lets users send and receive data using only audio. It first evolved from its academic research project roots to stand as a consumer-facing mobile app, letting users share photos, videos, music and messages when in proximity. Chirp releases a sonic flourish over an ordinary speaker. That tone contains data, which can be picked up by a microphone and interpreted to extrapolate sent items.

That alone isn't a revolutionary concept. But when you start to consider what Chirp doesn't need, it becomes obvious why gaming giants like Activision are suddenly implementing the technology in some of their biggest IP – namely *Skylanders Imaginators*, which is the subject of a new deal between the two companies.

> **It does things very differently. Unlike other technologies, you don't need to be connected.**
> *Moran Lerner, CEO, Chrip*

UNCONNECTED THINKING

What Chirp doesn't need to connect devices, ironically, is any kind of network connection.

"It does things very differently," Lerner enthuses. "Unlike other technologies, you don't actually need to be connected. You don't need to have a wi-fi or network connection. You don't need to be paired by Bluetooth. In fact, you don't even have to know who the other person is. You don't even to know their contact details. The sound connects any device with a speaker or microphone."

The other thing that Chirp does away with is a need for the devices to be compatible. If one device has a speaker, and the other a microphone, they can employ the technology. In its early conception Chirp looked to real-world birdsong to best understand communicating through sound.

Suddenly, the potential for games to transcend traditional platforms like console and desktop is clear.

A TV can speak to a mobile, meaning a game's sound effects could add content to a mobile companion app. Or a lavish vinyl soundtrack for a beloved indie hit can tell a game how to behave via a headset's microphone.

"It actually goes back to the very, very first computer technologies," Lerner reflects. "You could almost embed a Chirp into a 1960s computer that's the size of an office building. That computer could share its data with modern devices, in theory."

Beyond games, industrial robotics can Chirp updates on the factory floor, while the toys they produce can later talk with a smart TV or game.

The current *Skylanders Imaginators* deal isn't quite so convoluted, but it does demonstrate the potential of Chirp in very mainstream games.

"We've embedded Chirp into the game itself," Lerner explains. "Now, the unique feature of the game itself is the absolutely granular ability to create your own Skylanders. You can change the hair colour, the voice, the eyes, the ears; everything about the character."

By using Chirp, players can take their creations from the game to the companion app. It's not a fussy implementation, but consider the lack of a need for a network, and youthful players' tendency to not have much access to – or funds for – mobie data, and something becomes apparent. In freeing game sharing from networked technology, Chirp grants developers new ways to serve a specific audience.

SOUNDS LIKE AR?

Having secured the Activision deal, the team at Chirp now find themselves pondering the potential to change the way that many more high profile games function, including a certain AR hit. Imagine freeing *Pokémon GO* from networks, and connecting it to the physical realm through sound, Lerner suggests.

"Every single *Pokémon GO* player is really playing a single-player game, however social it is seen as," he says. "Only you can find your monsters. With Chirp embedded into that game, you could share or swap Pokémon, or even find them. Digital signage could use Chirp to hide Pokémon."

Surely though, nobody would approve of a world where life is filled with a cacophony of noise projected from concealed speakers? We all know how much umbrage vast swathes of the public took at people even playing Niantic's sensationally popular game. The retort there is a straightforward one. As well as sharing data through audible tones, Chirp can pass content using ultrasound, letting it 'speak' in effective silence. As such, the world could be garnished with a new sonic dressing detectable only via Chirp.

"I think a good way to describe Chirp really is as 'the augmented reality of sound', rather than of image," states Lerner. "Your game characters can interact with each in new ways."

Lerner isn't short on ideas either. Remembering those greetings cards containing a primitive hidden speaker, that unleash a bleeping ditty as the card is opened, the Chirp CEO proposes a question. How about inserting smaller, cheaper modern speakers in physical Pokémon cards?

There's a clear parity with the toys-to-life concept Skylanders made famous, and for all its simplicity, arguably Chirp could be seen to complicate what the RFID chips inside Activision's figurines already offer. However, Chirp isn't meant to replace those technologies. It is instead a compliment, and a way to connect existing hardware, from the novelty birthday card to the supercomputer.

> **Chirp can pass content using ultrassound, leting it 'speak' in effective silence.**

THE INTERNET OF EARS

Beyond connecting games without networks, Lerner also believes Chirp can bolster what the internet of things has long promised to deliver.

"Everyone these days is talking about the IoT," he states. "The only problem with IoT is that only ten per cent of devices in the world can be connected to a network.

"What Chirp now does, just with a simple speaker, is allow that 90 per cent of devices to be connected. And I'm talking things as simple as a micro-sensor in heavy machinery, right through to a Rolex watch, can now connect to a network. Put a very basic speaker or microphone into a watch, and suddenly your phone can influence it. You can connect the world that is never normally able to be connected to the internet of things."

That would let games further fledge the nest of typical platforms, and exist and move through very non-traditional devices.

Of course, challenges remain. In Chirp's ideal world, where developers and consumers embrace Chirp at a level where it becomes synonymous with everyday life, games makers still need to learn the craft of harnessing the technology. Time and again there have been examples where a new technology or medium is embraced because it is there, rather than because it really offers the best design choice. Chirp presents tremendous potential, but its impact in games ultimately comes to how – and why – games makers embrace it.

There, at least, Lerner and the team are doing all they can to serve studios harnessing the Chirp offering.

Several SDKs and APIs are available, not just for traditional platforms and middleware offerings, but for chipsets, microcomputers like the Raspberry Pi, and programming languages like Java, which could push content to devices via Chirp.

Studios can employ Chirp via an enterprise license that grants unlimited access to every SDK and API available, but there is something of a queue at the door. Such is the current interest as Chirp has expanded its remit far beyond consumer app, that an approval process is in place to allow the team to manage the number of requests to try the offering. While Lerner promises a rapid turnaround, interested developers must reach out to Chirp with their ideas, and wait for approval to be granted access. Successful applicants are then granted a month using Chirp for free, so as to explore how they may be able to implement it into their game.

How popular Chirp becomes in games ultimately depends on developers' willingness to embrace it. It's creators are doing everything they can to smooth that process, and with key players like Activision breaking the ice of adopting the solution, there's a very good chance we could hear a great deal more from Chirp in the coming months. ■

THE ARCADE **REBORN?**

Some will tell you VR will not only bring back the arcade, but reinvent eSports on doing so. **Will Freeman** asks the VRcade team to make their case for the dawn of 'v-sports'

Back in 2011, before the now infamous Oculus Kickstarter thrust VR back into the spotlight, Jamie Kelly became fascinated by a related idea.

What if, he wondered, there could be a wireless virtual reality system that breathed new life into the physical arcade concept?

"As the world's only platform for wide-area, immersive, wireless, multiplayer gaming, the VRcade locations would host tournaments and other events, which would encourage participants to play, and get good at, sports that could not exist in the real world," says the co-founder of VRcade, recalling his then unrealised dream.

It has become fairly common to hear people propose the notion that modern VR could see a return of the arcade. It's a beguiling idea, but is there really a chance that VR, arcades and e-sports could come together and prompt a return to visiting dedicated venues to play games? Kelly believes so. So much so, in fact, that he took his 2011 concept and ran with it, quickly realising his idea as a combined hardware platform and service. VRcade today exists as part of the wider VRstudios company, which offers the same wireless system for simulation and enterprise uses. He also co-founded VR studios and clearly has a sincere affection for what arcades mean to gaming.

THE LIVINGROOM UNLEASHED

Having built his VR arcade concept into a commercial operation, Kelly clearly believes in the potential of the concept. What is interesting, though, is the conviction that this is not about a return to players hunched at cabinets, but a chance to reinvent eSports, where games are played at 'warehouse-scale' between teams employing real-world athleticism. But before getting to that, it's worth looking at the logic behind the VR arcade concept.

> **I would like to coin the phrase vSports. I think it will hit a whole new level when a player's athleticism includes their bodies.**
> *Ivan Blaustein, VRcade*

"There is amazing growth happening in VR technology," Ivan Blaustein, VRcade's director of product integration offers. "With the three major consumer platforms – Oculus, Vive and PSVR – now shipping, anyone can purchase a VR platform, set it up in their living room, and have an exciting VR experience. But there are major barriers to entry for at-home platforms including cost, space, setup time, complexity, and content."

The logic, then, is that when VRcade install their wireless, motion capture based system – whether in a bar or amusement park – they are providing a high-end VR experience free from the limitations headsets made for the home market impose.

"There are also big benefits to experience design when targeting out-of-home installations," Blaustein continues. "When designing for a living room, you must design for the minimum viable hardware configuration to not limit your user base. For example, although the Vive can track four metre-by-four metre space, I have not seen a game truly take advantage of that space because most users don't have that much space in their set-ups. Developers also do not know what kind of graphics card users will be using and must design for a more modest PC configuration."

The VRcade hardware, meanwhile, offers users the chance to play with a range of motion-tracked props, can be customised to serve individual locations, and can offer capacity up to 11,000-square feet; which is where eSports comes in.

UNDERSTANDING V-SPORTS

"I am extremely excited for eSports in VR," Blaustein asserts, before a playful suggestion. "I would like to coin the phrase vSports. I love that eSports is finally starting to take off in the US, getting more mainstream attention, but I think it will hit a whole new level when a player's athleticism includes their bodies, not just their fingers."

He's certainly not alone in his unbridled enthusiasm for that idea.

"Within each piece of content, there is room for tournaments, micro-transactions, high-scores, and at-home tie-ins," Kelly adds, proposing his concept for an empire to rival those courted by many real world sports. "This gives the user incentive to come back to their favourite titles, practice at home, and invest in their character."

What that means for developers, who can harness a VRcade SDK for Unreal and Unity, is a new platform for their content. While the current spread of installed VR arcades is modest compared to VRcade's ambition, they are quick to point out the opportunity to promote or even test content using VRcade.

"With the VRstudios system, we have the opportunity to show content in its best form," Blaustein concludes. "Many developer teams want multiple users in the experience together, want to crank up the graphics and effects, or even just more exposure for their experience. Our arcade, theme park and family entertainment centre customers want a wide variety of experiences from hardcore, intense gameplay, to beautiful narrative experiences, and we are actively looking for developer partners to build out our content library." ■

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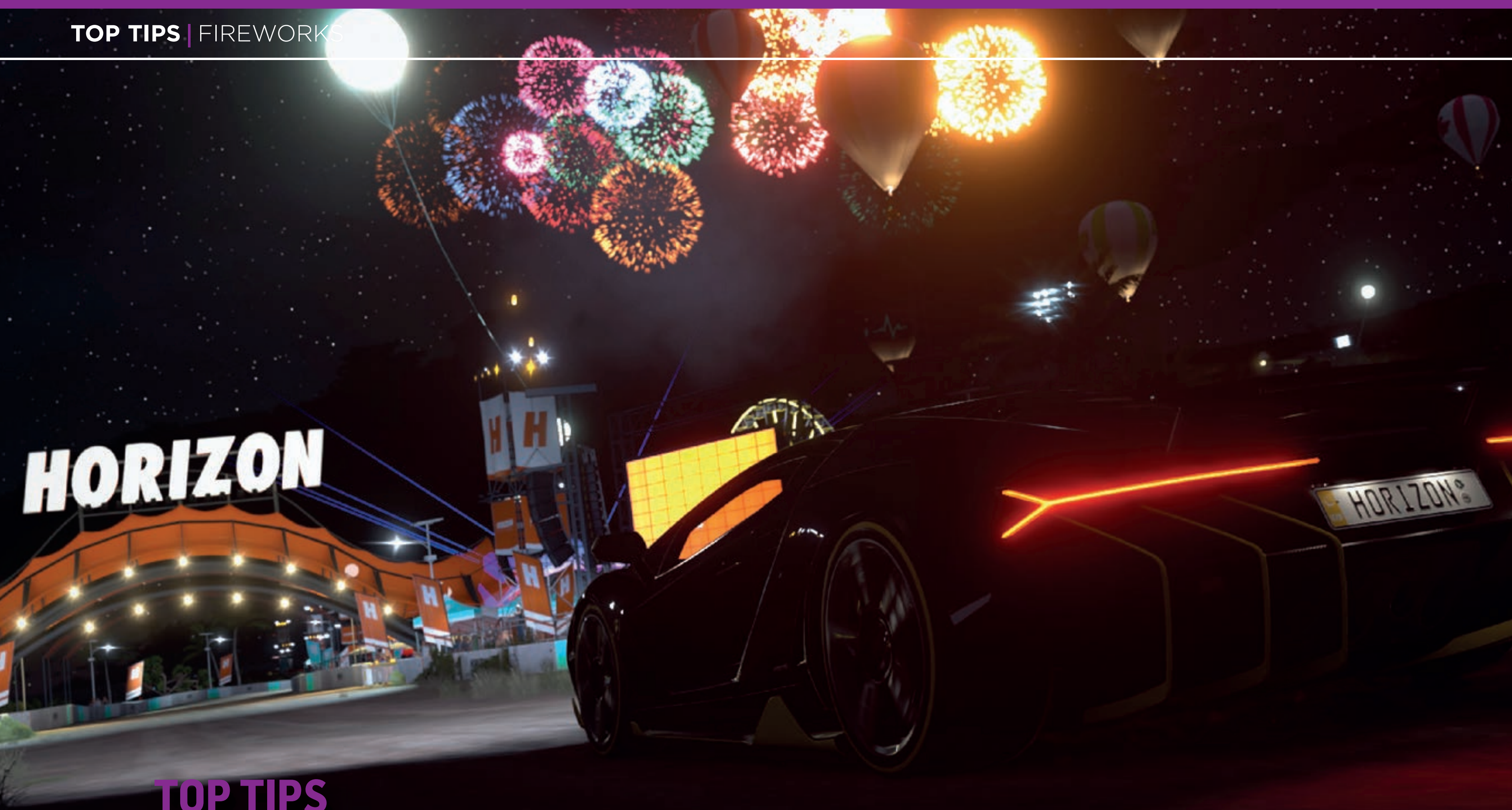


TOP TIPS

FIREWORKS

Develop asks Forza Horizon developer Playground Games for their top tips on creating fireworks in video games

November is the month of Fireworks. The fifth of November, Guy Fawkes Night, sees the commemoration of a failed attempt at blowing up the houses of Parliament. In modern times, we use it to see the colourful pyrotechnics of gunpowder explode against backdrops of music and merriment. So for this month's tips, Develop went in search of digital fireworks.

We didn't have to drive far as the artists at Playground Games offered to share their knowledge. Fresh from the release of Forza Horizon 3, the studio has spent a lot of time making sure their skybox is as real as possible. So much so that the team went to Australia with a 12K camera rig to make sure it was accurate and that it looked good.

The game was the first release on Xbox One to benefit from the console's new High Dynamic Range (HDR) features. So Playground needed to know their catherine wheels from their sparklers. Here's what they said. ■

> **"If you're working in a physically based system, as Horizon is, I would say a useful tip would be to check your emissive values on the firework effect. If it's not high enough, you'll end up with an uncanny valley type visual where something just doesn't quite work and it might be difficult to spot straight away. If you've been savvy enough to set relative values for other emissive light sources in your environment a good way of checking the fireworks is to compare them against these. Generally they should at least be a few stops higher than most other regular sources in the scene. Those things are bright!"**
>
> *Ben Penrose*
> *Art Director*
> *Playground Games*

> "In Forza Horizon 3, we render a dynamic cubemap every frame for the car reflections. This has the added bonus of ensuring every time the fireworks go off they reflect perfectly on the car bodywork.'
>
> "We took great care in the pre-production phase of Forza Horizon 3 to capture a wide range of photographic reference to ensure we got these relationships correct, which also put us in good stead when working in HDR as the base values we already setup to work with the increased brightness range of the displays."
>
> *Jamie Wood*
> *Lead Lighting Artist*
> *Playground Games*

PREMIUM REIGNITED?

New figures from Fireproof Games paint a positive vision for premium. Director Barry Meade shares his thoughts with **Will Freeman** on picking the right monetisation model

> **We make our decisions based on what we want to make and work on.**
> *Barry Meade,*
> *Fireproof Games*

UK studio Fireproof Games has always been open with numbers. Back when the team were first planning The Room in 2012, the emerging world of contemporary mobile development was something of a mystery.

They looked around for insights and figures to guide their fledgling journey, but found nothing. From then on, the Fireproof developers agreed that if and when their games were successful, they would share as much as possible, in a hope to inform the next generation of rising studios.

Fireproof has shared a remarkable amount of information. From the development costs of each game in The Room series – £160,000 for the first game and £1,407,000 for the last – to number of production babies born for each game, team sizes and timeframes. The volume and detail of the information is extraordinary.

If the new release of data says one thing, it is that premium can still thrive. Across its three games The Room series has seen 11,648,531 sales, garnering 1,289,425 positive user reviews.

FREE-TO-CHOOSE

That doesn't mean, however, that Fireproof is blindly devoted to paid-for games. "It's not that we're committed to premium," Barry Meade, Fireproof Games director, confirms. "We're kind of agnostic about platforms to be honest, but premium has proven a great avenue for what we enjoy. We make our decisions based on what we want to make and work on."

In fact, the real message behind Fireproof's numbers is exactly that, and – perhaps ironically – something rather more abstract and heartfelt than cold hard statistics typically communicate on paper.

"If we hadn't come up with a heavily touch-based game idea like The Room, I'm not sure we would have released a mobile game," Meade continues. "Premium worked for us because we had the right game for it. We don't really think about it much deeper than that to be honest. You make the best choices you can to support the games you want to make."

For Meade, comparing and contrasting free-to-play and premium is a somewhat fruitless exercise, because they are now such distinct beasts. Instead, it's perhaps more constructive to consider what you want from your game.

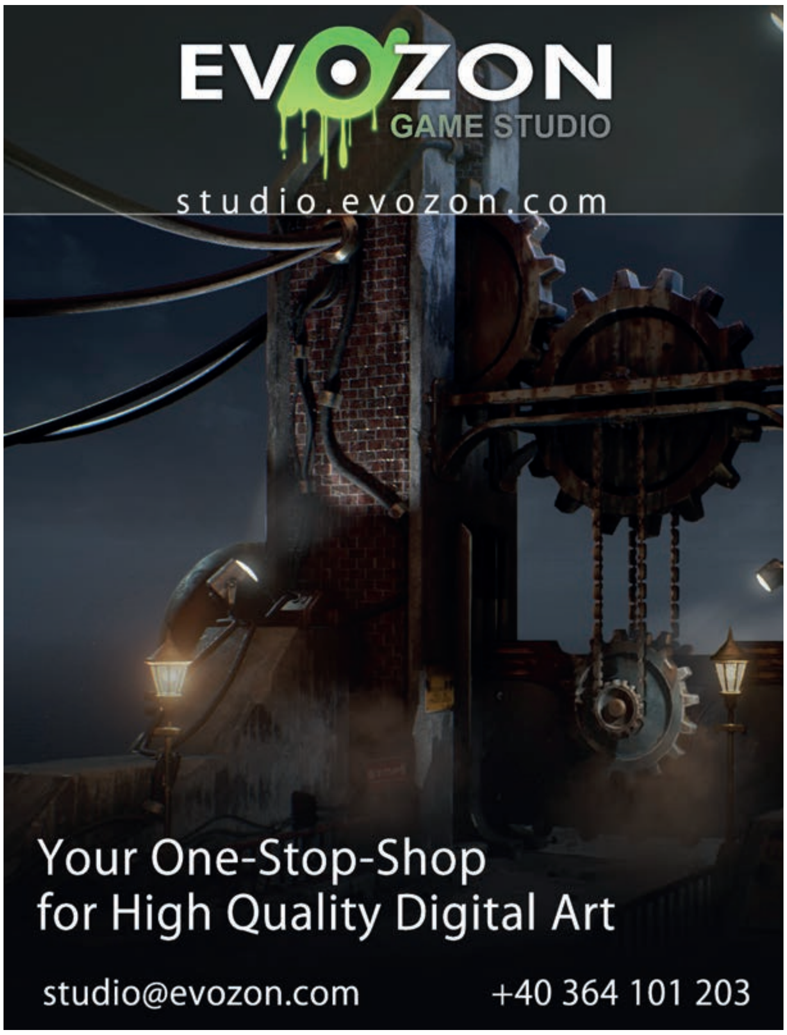
"Ideally, one should forget IAPs, user acquisition, analytics, eCPA and all that when thinking of the best possible experience to give a player," Meade offers.

"But with F2P, we can't. With premium, we can. Premium, to us, is a blank page we can take anywhere; free is pre-loaded with all kinds of design laws and expectations."

There are masters of free, and there can be much to be taken from creative challenge of fusing gameplay design and monetization.

ACCOUNTING FOR TASTE

The decision to design for free or for premium, at least in Fireproof's case, is really about personal taste. "I've met developers who believe that mobile is one big family co-existing on a level playing field," he reveals. "They genuinely have forgotten what 'free' means." Taking that mindset, and making the monetisation fit your game might not gel with the entirely profit-minded. But as the numbers show, in Fireproof's case, going your own way gets some truly impressive results. ■



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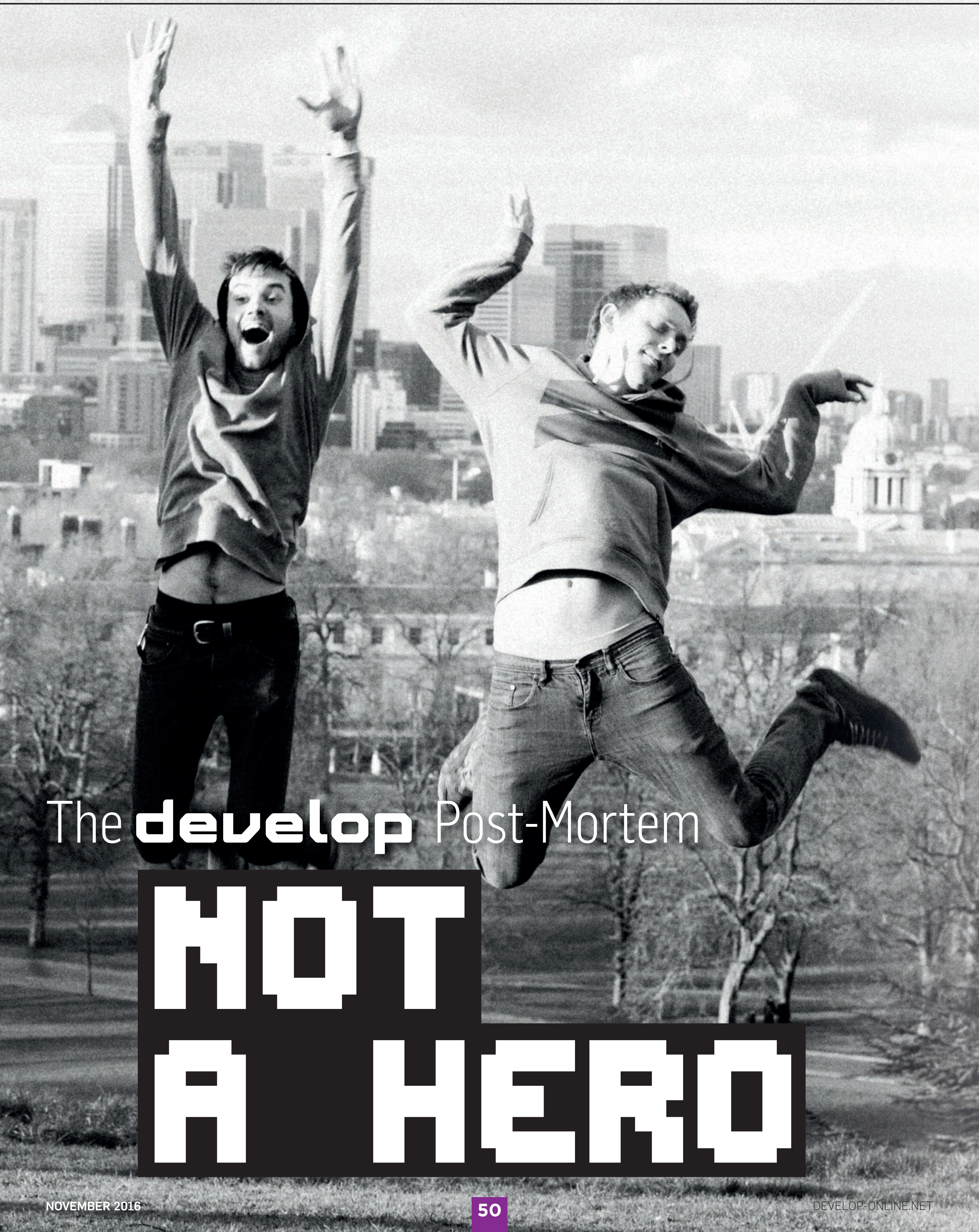


The **develop** Post-Mortem

NOT A HERO

In the middle of a bitterly fought general election in the UK, one candidate beat many odds. **Sean Cleaver** speaks to Roll7's Simon Bennett and John Ribbins about BunnyLord's journey

In January 2013, PC Gamer picked up an article from IndieGames.com looking at a 2D cover based shooter called *Ur Not A Hero*, posted up on The Daily Click. Created by a developer called Peanut Butter Fingers, they said of the game: "This is obviously a rough draft, but the fundamentals appear to be in place: quick, stylish, satisfying combat, with superb animation, and a killer hook in the form of the slide move."

Peanut Butter Fingers is John Ribbins, who created the game during the time amid Sony's negotiations for *OlliOlli*, which became Roll7's BAFTA winning sports game. "I kind of went off and did a side project which was about going in to buildings and shooting people – just a silly arcade game," Ribbins says. "That was kind of the core of what *Not a Hero* was, but we took a year off *Not a Hero* to do *OlliOlli*."

Not a Hero was released in May 2015, featuring a purple anthropomorphic rabbit that had travelled from the future to rule the world benevolently.

In his future, the world is totally destroyed and has been invaded by aliens, so in order for BunnyLord to be elected and prevent this from happening, he recruits anti-heroes to clean up the cities' crime. The players are the anti-heroes, shooting through fast paced, procedurally generated isometric levels, utilising wall cover to avoid being hit.

The elements were a combination of various different projects that Ribbins had done in the downtime before *OlliOlli* started development.

"During that period in hobby project time I played around with a bunch of other things. I did a random conversation generator and was also building a dungeon generator too.

"So when we came back to *Not a Hero* we threw out side projects that had a cool element to them but the rest of the game didn't work. We kind of frankensteined some functionality that was in these other failed prototypes that was perfect for *Not a Hero*, but didn't work in the project they were in."

TOO MANY (ADJECTIVE)

With the combination of many different elements and the team spread across multiple projects, construction of the game quickly became confusing for all involved as elements were fused together. "I'm sure Simon will agree, as he was producing it and asking me what the hell was going on," says Ribbins but the ideas quickly began to flow to make sure the game wasn't 'just a level-by-level murder simulator.'

> **We kind of frankensteined some functionality that was perfrect for Not a Hero, but didn't work in the project they were in.**
> *John Ribbins, game director, Roll7*

"The random story generator initially was that '[BunnyLord] can just change adjectives and verbs as he's talking,' so it will mean he's a bit different every time. But *Not a Hero* to a degree with us was like Feature Creep: the video game.

"BunnyLord would say 'Oh, we need to go to this bear factory,' and then next he'd say, 'Oh, we need to go to this xylophone factory,' or whatever, and it became that thing where really the stuff that he says randomly in the cutscene should be reality in the level you play. So if he says 'a xylophone factory,' there should be xylophones in the level. So that kind of helped inform some of the game design on the levels."

Simon Bennett, who was also working on *OlliOlli's* sequel by this stage, came on board as a producer in July 2014. "Originally, I remember a version of the game where BunnyLord's head would actually pop up in the level itself, like a little speech bubble type thing," he tells me.

"So he was actually going to update on you objectives while you were playing," Ribbins explains. "But the code that we were using to generate the random text was reading a lot of text files and doing a lot of text passing in order to throw the right words in the right gaps. In the end we just couldn't use it in the game because it slowed everything down every time BunnyLord wanted to talk."

ELECTIONEERING

As the game became more complex, the delays started to creep in. "The game itself was originally scheduled for June 2014. We got to April/May 2014 and we were like 'What is this game?' and 'shall we bring on an artist to help John because he's kind of busy doing it'. We fundamentally misunderstood how tough it would be to do two games at the same time. *Not a Hero* was pushed back and suddenly we realised, 'Wow, the launch date seems to be coinciding with the General Election. Let's launch on election day.'"

The accidental timing of the game hit the cultural zeitgeist of Britain, between bacon sandwiches being eaten, promises committed to stone tablet and wildly inaccurate polling. "It's one of those things that it just looked like too good an opportunity on a marketing front to miss," says Bennett. "It was just a really fun way of tying it in. We did go pretty overboard with the marketing stuff but we had a great time putting it together. All the while BunnyLord's colouring became an amusing point for those wearing promotional material. "BunnyLord's always been purple," explains Ribbins. "There were some people that wore the BunnyLord rosette on the train home and, obviously, it's purple and yellow. So people on the train mistook them for UKIP supporters."

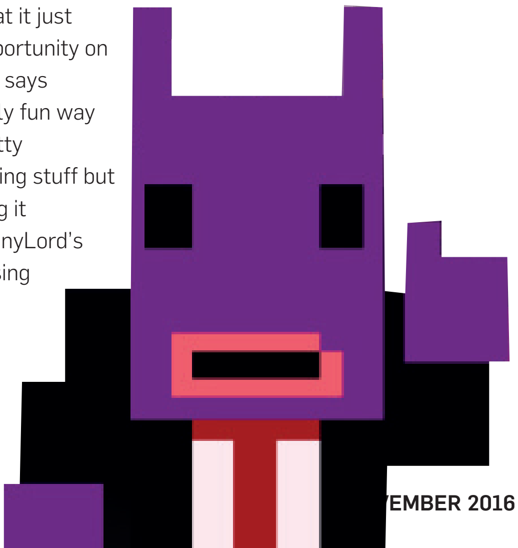
Development of the game became a mix of great joy and utter exhaustion for the team at times, as they took on another member of staff, Jake Hollands, to help with the workload. Part of this was down to the freedom of creativity that Roll7 enjoys.

"The project is full of moments of joy," Bennett recalls. "And when core decisions of how the game actually works probably should have been happening, that time was taken around those moments of joy, detail and fun. It was only in December that we managed to sit down, the three of us, and actually lock down what the meta-game was going to be, That was such a late day part of the process."

Bennett recalls one particular accidental revelation with the possibility of bullet time in the game. "I got a call from John at some point while I was at the office. John had put this thing in, I think it was a menu feature, but it accidentally made the game run at half speed and slowed everything down, and basically gave you the ability to have bullet time.

"My immediate response to that was 'let's not be silly here'. John had obviously fallen in love with it and I had to be the voice of reason.

"On the other hand, there were occasions where I myself got way too excited, probably after too many drinks, about elements of the game where, at that stage of production, we shouldn't have been touching it.



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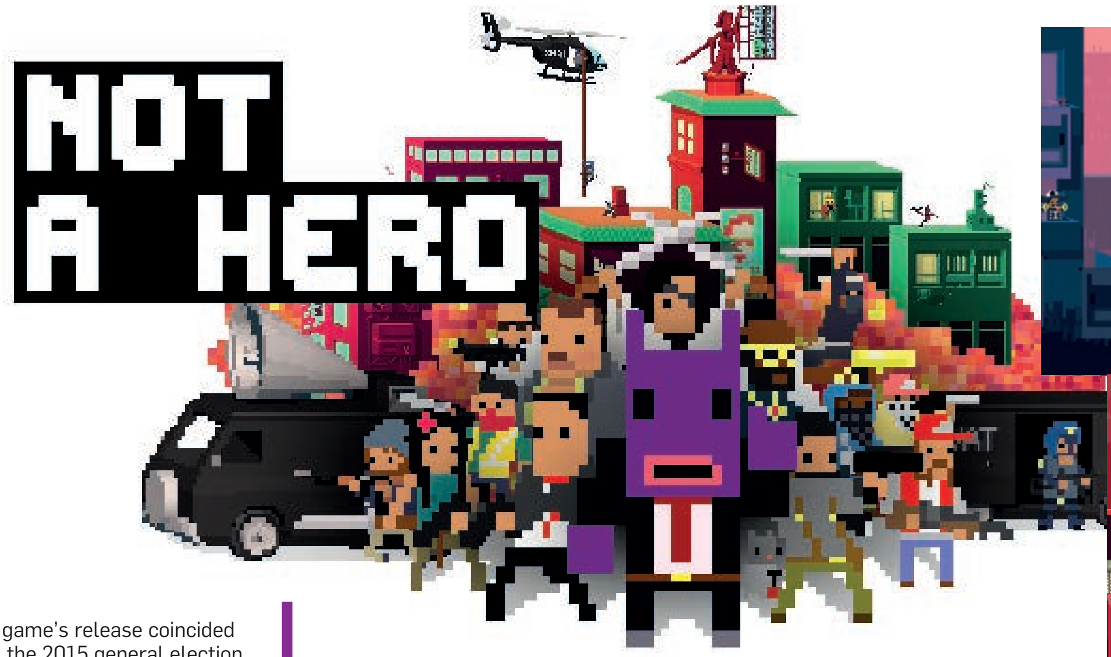
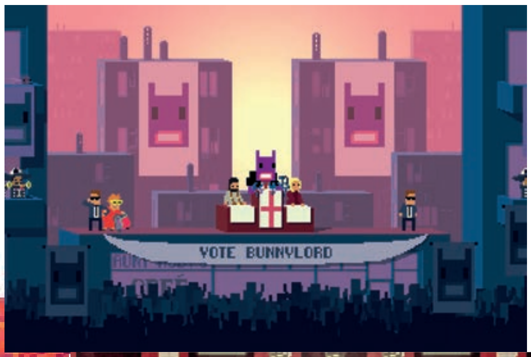


The game's release coincided with the 2015 general election



"I think that's the sort of two sides. Doing it 'right' and doing it 'indie', as it were," Bennett remarks. "You always need a bit of a mix of both in order to actually finish a game. I think that you can only probably build one game like that before you just start losing your grip on reality."

Ribbins recalls the words of Tom Hegarty, the other director on *Not a Hero*. "A phrase that came out of this period of time – 'let's take it to its logical conclusion,' which is one of those terrible phrases when you're a designer and you have a cool idea. Tom's like 'take it to its logical conclusion' and you have to say 'yeah, you're right'.

"There's an awful lot to do for it to actually come around. The cool idea we can do in two hours, but the knock on effects of the cool idea and the other people that need to work on the cool idea and the QA and all the other stuff, suddenly that's not two hours. That's three weeks.

"With *Not a Hero*, the biggest lesson we learned with that was, basically, every element of the game has to be taken to its logical conclusion if you say 'we're going to do it,'" recalls Ribbins, although there was still one more delay to be had.

EIGHT FRAMES A DAY

Just before the release date, Roll7 launched a small demo of the game on Steam leading to many comments on the forums, which Ribbins recalls as, "'it only runs on 30fps. Won't buy,' which is just something we hadn't thought of." Weirdly you don't notice that much of a difference when it runs in 60fps because a lot of the animations are only three frames long, but clearly that was important to people. So we had this awful decision just before launch."

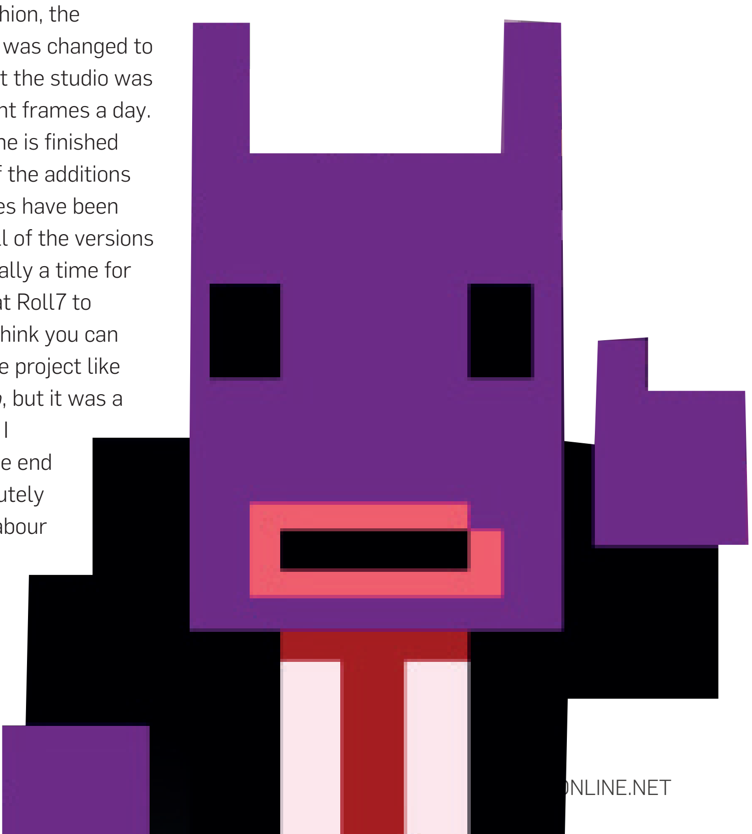
> **It did lead to the most tense discussion between the two of us from across the Atlantic.**
> *Simon Bennett, producer, Roll7*

"Funny how my memory of this is totally different to that," Bennett jokes. "When we were looking for a company that could work out how we could port the game, we came in to contact with the people who build multimedia fusion. We started a dialogue far too late in the development process with the technical people and then, suddenly, that 60fps option became open and available. I got an email or call from John at half 11 at night about three days before I was going to San Francisco to do a small press talk and John said, 'you're not going to like this but I've got the game running at 60fps. The whole game's a lot faster and it's totally different. But it's way better and we're going to build this.'

At this point the game had completed QA and was practically ready to go, and this led to a delay of a further week, past the election release date. "I'm glad because we have a much smoother game as a result," says Bennett. "But it did lead to probably the most tense discussion between the two of us from across the Atlantic at crazy times in the night." In typical fashion, the marketing was changed to reflect that the studio was adding eight frames a day.

The game is finished now. All of the additions and patches have been made to all of the versions and it's finally a time for the team at Roll7 to reflect. "I think you can only do one project like *Not a Hero*, but it was a game that I think by the end was absolutely kind of a labour of love," Ribbins concludes. Bennett also thanks Devolver Digital, the publisher for the game, for seeing the potential in the project and "for accepting our three or four different extensions to the deadline and bearing with us during our crazy period, as we should call it, where we got too far involved in the game's marketing."

Bennett finishes by saying "it's an odd game that's very much based, predominately on John's humour, but it definitely came from the kind of conversations we have as work partners, but also friends." ■



HEARD ABOUT

BATTLEFIELD 1

John Broomhall talks with EA DICE's BENCE PAJOR (audio director) & ANDREAS ALMSTRÖM (lead sound designer) about the studio's latest audio tour-de-force

You've described the overall sound aesthetic of Battlefield 1 as 'brutal yet elegant' – what does that mean?

BP: It's important to portray the brutal force and unstoppable motion of powerful machines and deadly weapons, but also highlight the elegance and vibrancy of the meticulously engineered, often handcrafted, mechanical machines. So you have 'brutal yet elegant'. We've also looked for 'elegant' aspects in hand-to-hand combat, weapons, explosions – like the detail in debris falling on clothes and helmets, distinguishing different materials. Or the vibrating ring of a spinning shell casing ejected by your rifle accompanying the echo of the gun fired from a barn window in a forest; you hear it bounce, roll across the wooden floor and come to a stop at the wall.

Given the historic nature of the title, can you talk about sourcing/recording sounds?

AA: Our ambition has always been to record as much as possible ourselves. A personal connection to the content always yields a more diverse and unique soundscape. We focused a lot of effort on capturing different types of outdoor environments - fields, canyons, clearings, forests, rural and urban locations, as well as different types and sizes of trenches, rooms, barns and basements. Environments matter a great deal. High energy sounds tend to excite the world in a way that no reverb or DSP can simulate. We embrace this and record many sounds in environments true to the game.

BP: We've literally been in trenches recording period-era weapons - hunkered down in armored trucks going over unpleasantly rough terrain, mics ready. We've had tanks bark and claw their way through mud and grass; we've recorded (and witnessed) the wonders of early aviation when planes were built from wood, strings and courage. These magnificent birds are awe-inspiring and sound like roaring beasts cutting through the sky.

AA: We recorded our soldier foley in the wild on natural materials so we could freely run, crawl, jump, vault and climb, portraying motion and determination whilst dressed in the right clothes/materials. Outdoors you get natural surface variations - a twig here, some softer gravel there - it all adds up.

BP: Sounds moved around by the engine can feel static. We want sounds to have a direction – to be going somewhere. The angle a weapon's facing, distance, caliber and environment are parameters we use to pick the right content, combining real recordings (with inherent, unpredictable life) at run-time – rather than trying to simulate with DSP effects applied to 'sterile' sounds. Then we massage with physics (or random) driven DSP to hide the edges.

What's been different in your design and recording approach to dialogue this time around?

AA: This game involved hiring localisation studios worldwide. When we explained our methods, dragging a bunch of people outside into a big field and having them scream and shout, they said we were crazy. We want the chaotic sound of physically strained groups of people performing together to get to the right energy levels. It has to feel 'do or die'.

BP: Our EA Madrid colleagues rented a sound stage and had actors running around with backpacks full of weights, lifting bricks whilst shouting their lines. Quite hardcore, but it delivered great results. So our VO producer travelled the globe ensuring all studios followed our bizarre specs. Battlefield's never sounded more humanly chaotic.

What have you learned from this amazing journey?

Trust your inner compass and stick to your vision. ■

John Broomhall is a game audio specialist creating and directing music, sound and dialogue
www.johnbroomhall.co.uk

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SERVICES SPOTLIGHT

CORE DESIGN

Core Design has had many different guises over the years. As the studio responsible for the original Tomb Raider twenty years ago, they've evolved to become an external art production company. We asked Troy Horton to tell us more

Tell us about Core Design for those unfamiliar with the company. What services do you offer?

We provide art production services to the game and movie industries. We are not developers ourselves although game development is our background. I was in development way back to the Commodore Amiga days and had worked on the original Tomb Raider games amongst many others.

What projects have you worked on/are you working on that we might recognise?

One of our longest running projects is contributing art to Heroes & Generals from Reto Moto out of Copenhagen, a seriously engaging free to play World War 2 MMOFPS game. Some of those guys are former founders of IO Interactive of Hitman fame.

What experience do you have?

Our team has produced assets for games like Eve Online, Battlefield games, the Fable series and Transformers. Dozens of well-known games actually. We can make pretty much everything. From full scenes and worlds, to weapons, vehicles, trash cans, general foliage and characters.

How much demand is there for external art development?

There is a lot of demand out there. All the majors use companies like ours and maintain a database of quality vendors. Not just art development but they also use external sound creation, QA and localization. If developers have all things in house the pressure on companies is far greater. They tend to keep a core team covering these areas that can focus on the quality of the game then mass produce the rest outside, which can have a lot of benefits. But only if you are geared up for it and believe in the model.

What are the advantages for developers using external artists, rather than their own?

One part is cost obviously, but sending art to vendors like ours for this part alone is probably the wrong approach and you won't see many of the benefits. It can make a developer leaner and product focused. It can also help balance a company's books more easily by not having a large production staff in place between projects, which can run into hundreds of thousands of pounds, or even millions. It's not just salaries, its office rental, utilities and so on. Money saved could also be used for other things such as making the product better for release, or using it for more DLC or marketing. Everyone has their own reasons but to gain the benefits it is best to be prepared. Working with your vendor as a close partner rather than a manufactory will absolutely see benefits. Vendors like ours have experience with most genres, visual styles, software tools and game engines. In some cases, we are ahead of the curve because we are working on projects on hardware that isn't even out yet.

How have you made yourself affordable to studios of different sizes, like indies for example?

We work with a few small developers, as well as the global leaders. We are a UK based company and we handle all our business development, contracting and invoicing here. Our studio is based in Shanghai which has been the worldwide leader for external art development services for a decade. Being here our cost is naturally lower but the talent is equal in ability. I was one of the first, along with a couple of other good groups, that really got it going large scale in Shanghai. It is the global hub for external game art services.

OVERVIEW: Art Production of 3D and 2D assets for development.
LOCATION: London, Nottingham and Shanghai
WEBSITE: www.cored.uk
EMAIL: troy@cored.uk
TWITTER: @coreduk

What are your plans to grow Core Design? What's the next step for the company?

Our growth plans are mainly relating to improving our quality and keeping it consistent. Next-generation hardware on all platforms needs visuals far richer than ever before. This can push costs up for developers significantly so another part of this is improving efficiency and productivity in order to minimalize or cancel out these issues. This is where we will try to grow our business. All of our staff need to have the quality to produce game assets for games that the best game developer's are making. Quality over scale is our business driver.

How are you reaching out to new studios?

We do some advertising which is really just to allow our name to be known. The most effective way to reach out to studios is face to face at conferences, keeping in touch with old friends and contacts. Events such as Develop, XDS and others such as Game Connection. Face to face is always best for producing direct results. ■

OCULUS DELIVERS UNREAL OPPORTUNITY

It's easier than ever to be successful with Oculus and Unreal Engine 4

During October's Oculus Connect 3 in San Jose, Oculus announced that it will now cover royalty fees for all Unreal Engine titles shipping on the Oculus Store, for up to the first $5 million of gross revenue per game.

Epic Games already makes the Unreal Engine available to all developers to use for free, with a 5% royalty due on gross revenue from the resulting games. Oculus' generous new arrangement makes the Unreal Engine and Oculus Store even more attractive for VR developers.

Nate Mitchell, VP of Oculus, notes: "We've been close partners with Epic since the beginning, and we've used Unreal for countless projects including *Toybox*, *Dreamdeck*, *Farlands* and the upcoming *Dear Angelica* from Story Studio."

Unreal Engine 4 is widely used by everyone from indie developers to the world's top triple-A studios. It includes native state-of-the-art support for visual scripting which is scalable for building complete games, and includes complete C++ source code via GitHub. Everyone can use it for free and custom license terms are available as well.

ROBO RECALL

In addition to this announcement, Epic took to the stage at Oculus Connect 3 to unveil *Robo Recall*, the company's first fully featured VR game, which will be released for free for all Oculus Touch owners in early 2017.

Robo Recall may feel familiar to anyone who's played Epic's *Bullet Train* demo, which the studio created to help Oculus unveil the Touch controllers last year.

> **Our goal is to take advantage of these new tools to provide an over the top, memorable experience.**
> *Tommy Jacob, producer, Robo Recall*

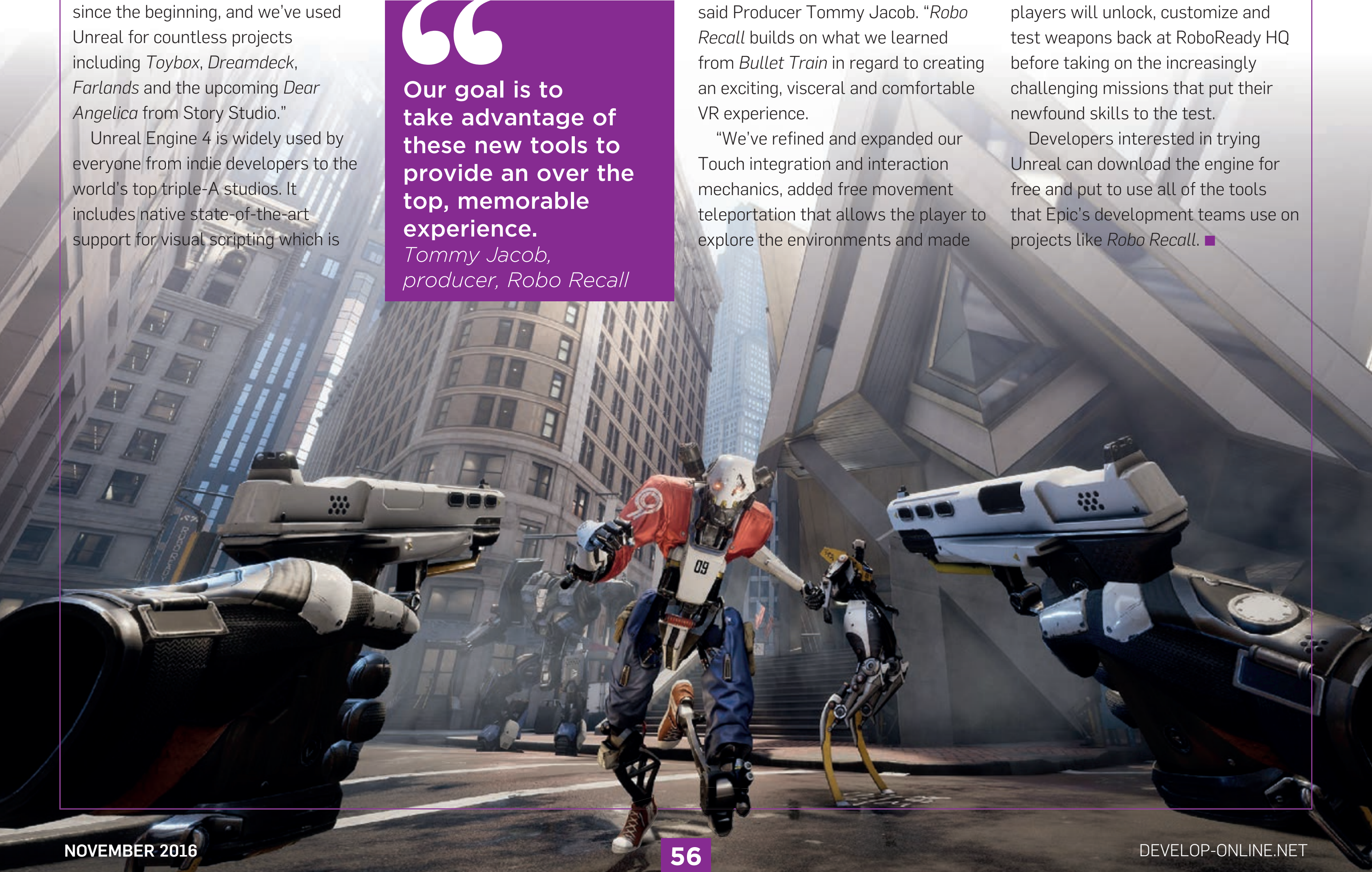
In *Robo Recall*, players use creative combat tactics to lay waste to rogue robots while teleporting through city streets and rooftops. While it's set in a whole new world, the game further develops *Bullet Train's* satisfying combat and core gameplay mechanics. The game also features an in-depth scoring system and leaderboards built on top of the Oculus platform API.

"VR provides a level of immersion like never before. Our goal is to take advantage of these new tools to provide an over the top, memorable and replayable experience that defines a new generation of shooter," said Producer Tommy Jacob. "*Robo Recall* builds on what we learned from *Bullet Train* in regard to creating an exciting, visceral and comfortable VR experience.

"We've refined and expanded our Touch integration and interaction mechanics, added free movement teleportation that allows the player to explore the environments and made significant improvements to our art quality."

Players can tear apart their robot foes and use them as weapons against the enemy onslaught. Throughout the course of the game players will unlock, customize and test weapons back at RoboReady HQ before taking on the increasingly challenging missions that put their newfound skills to the test.

Developers interested in trying Unreal can download the engine for free and put to use all of the tools that Epic's development teams use on projects like *Robo Recall*. ■



TOOLS SPOTLIGHT

CREATIVE DIALOGUE TOOLS

After opening a studio earlier this year at Vault501 in Santa Monica, Creative Dialogue Tool's Mark Estdale takes **Develop** through exactly what CDT is

What is Creative Dialogue Tools?

CDT (Creative Dialogue Tools) is a suite of audio and production tools designed to overcome the 'sample music syndrome' of game dialogue. CDT helps those who want to achieve truly subtle voice performance in games.

What are its main features?

The main CDT element is 'the player' which is about contextual precision. It is used three ways: to give context to performance during voice recording, for QA and for localisation. Two click production analysis gives a detailed production overview from the script, giving accurate schedule and costing information.

Overall CDT enables hassle free production of contextually QA'd dialogue before it gets in game. Used correctly it can make for zero error delivery. An early version of the tools stripped two months of a developer's dialogue integration and QA process.

Why did you create these specifically for dialogue?

I'm a dialogue producer running a production company. I want to produce great work with ease. For quality in performance the key is context, for quality and cost saving in production the key is preparation. I designed CDT to make both elements easy.

Most game dialogue scripts are a sterile Excel sheet and recording is with a director guiding the actor from line to line and marking good takes. It's the dumbest production method out there. It's like hiring the Royal Philharmonic Orchestra to play a symphony one note at a time then using Cubase to combine the samples. Standard game voice recording methods strip the soul out of what actors can bring. CDT, by bringing precise context to every moment, enables actors to bring the subtle magnificence of their craft to games.

Why was it important to encompass the whole dialogue creation process?

I wanted to kick into touch the idea that it takes a voice actor to be a voice actor in a game. How could I enable an actor at the height of their craft, that can move my soul on stage or screen, to be just as powerful in a game?

Most people want better performance in their game. So it made sense to address elements of the whole production chain and deal with headache points getting the script into a coherent database for the game engine or into a contextual shape for recording, post and localisation. Easy to use simple tools that clearly reduce stress and simplify the job at hand help make change palatable.

> Easy to use simple tools that clearly reduce stree and simplify the job at hand help make change paletable.
> *Mark Estdale*

How does CDT integrate with other audio/game development tools/pipelines?

CDT locks with Excel as it serves as a universal conduit for game scripts, data and game databases. Parts of CDT link to third party audio software for audio analysis, QA, mastering and editing. As a toolset it's modular and customisable, so we tailor it for each of the developers and publishers we work with. For us the player is the core CDT tool for the Game Immersive Voice Recording (GIVR) methodology. We've now built three GIVR studios at OMuk in London and last month we completed building the first GIVR studio in the US. All the studios are open to anyone to come and see what CDT and GIVR can do.

PRODUCT: Creative Dialogue Tools
WEBSITE: http://www.creativedialoguetools.com/
KEY FEATURES:
- Script Writing
- Recording and Localisation
- QA for Dialogue

What titles has this been used in or tested on?

Telltale Games were the first developer to use a prototype of the tools when recording Wallace and Gromit's Grand Adventures. Elements were also used on The Wolf Among Us and their Game of Thrones series. Broken Sword 5: The Serpent's Curse was the first UK game to make full use of GIVR/CDT, so we were delighted that it won the 2014 AGGIE for Best Voice Acting. Driver San Francisco famously delivered 300,000 words of recorded dialogue in 6 weeks without bug or need for pickup.

How will you be enhancing/evolving CDT in future?

We are working on a script writing element and are looking at ways in which CDT integrates with audio software, middleware like WWISE and FMOD, and with game engines. We're also considering investment and partnerships.

Our focus is not just on improving the tools but also on showing people what they can achieve by following a different production methodology. ■

ASK AMIQUS

Liz Prince, business manager at recruitment specialist Amiqus, helps solve some of the trickier problems job seekers currently face in the games industry

Q Dear Amiqus, How do I balance working on personal projects with the work I create for my employer? Does the studio I work for have first dibs, or even ownership, of my work?

The games industry is full of passionate people and many choose to work on their own projects outside of work, but does your employer own these by default?

"The short answer is 'yes' and the longer answer is 'it depends'," Alex Tutty of Sherridens explains. "Obviously if you are a designer by day and at night designing your own projects, using work computers, this creates an issue. But any role at a game studio and working on your own project can cause an issue."

Stevens & Bolton partner Tom Lingard elaborates: "The general legal position is that only work done 'in the course of your employment' will be owned by your employer, so things that you do in your own time should remain yours. It's important to check the terms of your contract and make sure you keep your personal projects distinct. Working on personal things in the office, or using code from work projects in your own games is definitely not a good idea."

There are also exceptions to the default ownership, as Vincent Scheurer at Sarassin explains: "This does not apply to work which is not created in the course of employment. However, many contracts go much further, stating that additional work created by the employee is owned by the employer. I have even seen one contract that transferred all rights in all work created to the employer, even if the work had nothing to do with the job.

"Check your contract carefully, and if in doubt discuss with your employer at the outset. Never start a project without being sure that you own it."

Alex Tutty agrees: "To avoid an issue of who owns what arising later, it is best to have a conversation with your employer and get a written agreement that your own project will not be claimed by them. If your employer says no, then at least you can make the decision of whether to leave or stop your project."

The games industry has a deep respect for people's creativity and it can be a key feature that attracts a studio to hiring someone.

"A number of studios and companies actively encourage their employees to work on their own things" says Tutty.

Alastair Moore, legal and business affairs counsel at Jagex concurs: "We have a positive HR policy on personal projects and encourage our team to be creative in their spare time."

"Developers that work for games studios need to be aware that their employment contract may contain post-termination restrictive covenants," says Sherridens' Tim Davies. "This is a term in your contract that prevents you from doing certain things for a set period of time after you have stopped working for that employer.

"A typical restrictive covenant might seek to prevent you from starting or joining any business in competition with, or overtly similar to, the employer's business. Often, for up to six months. It is worth asking a lawyer who should be able to review your employment contract."

From the advice we gathered, if your own projects are just for fun, a thorough check of your contract plus a sensible conversation with your employer should keep things transparent for everyone. It's not a black and white issue so be open with your employer and keep clear lines drawn between the two.

Or, if you feel that your job doesn't offer you fulfilment it could be time to consider a new challenge that more closely matches what you enjoy. ■

Liz Prince, business manager at recruitment specialist Amiqus, helps solve some of the trickier problems job seekers currently face in the games industry.

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<GAMES GUIDE>

YOUR ESSENTIAL GUIDE TO
THE INTERNATIONAL
GAMES INDUSTRY
2017

The Games Guide is a hard copy catalogue that will feature the best names in Games Development, Publishing, QA & Localisation, Design, Recruitment, Accessories, Merchandise, Distribution, Events and more. Including details on who they are, what they do and how to get in touch with them.

This comprehensive guide to the games industry will be distributed within the full print run of both MCV and Develop; also it will be distributed at leading industry events during 2017, including GDC, E3, Gamescom, Develop Brighton, Future Games Summit, and more.

As well as the hard copy, the directory listings will feature within every single issue of both magazines all year, along with being available to view as a digital copy under the 'Games Guide' tab via **www.mcvuk.com** and **www.develop-online.net**

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